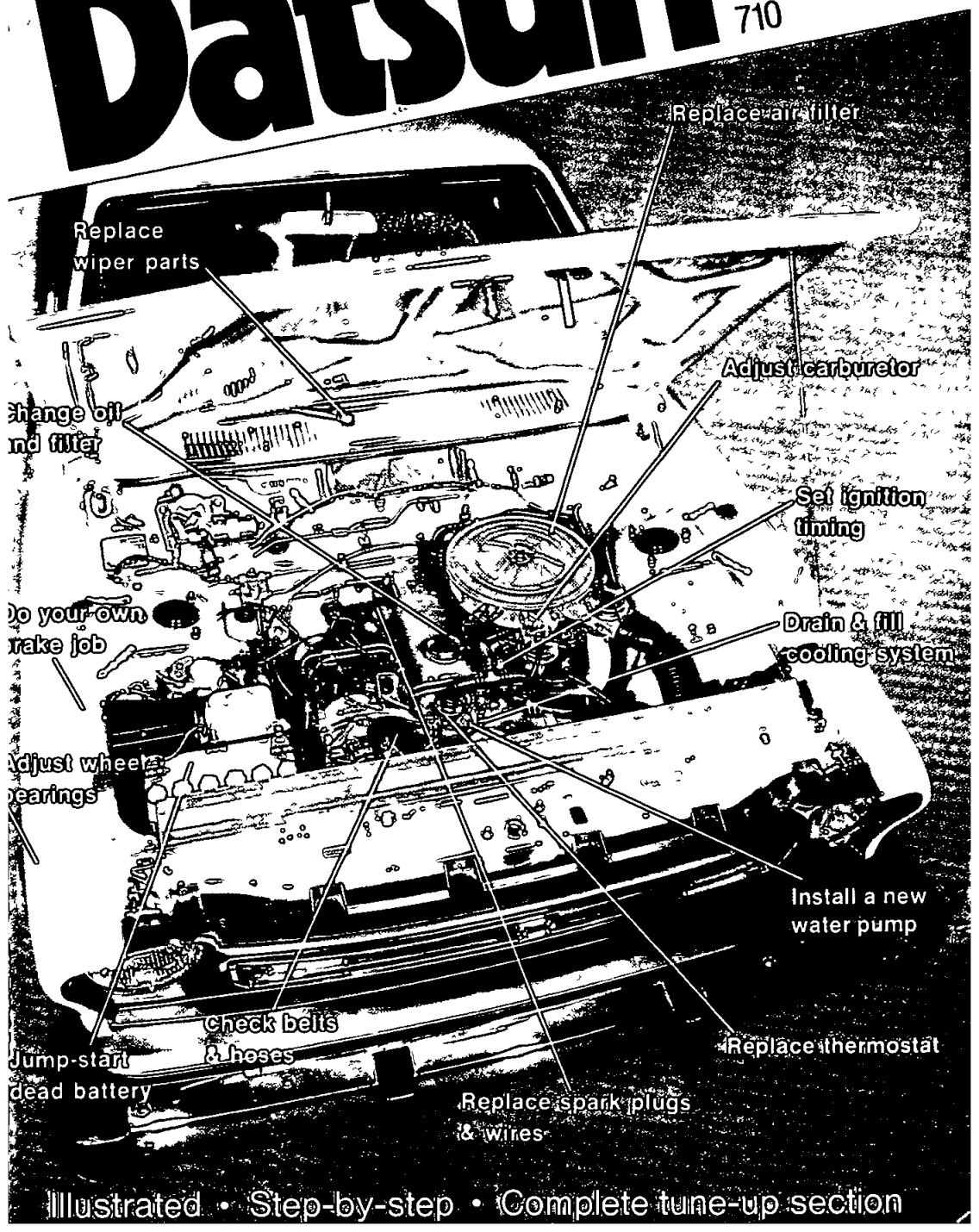
SATURDAY MECHANIC

Car Care Guide

$4.95

Datsun

B210
610
710



Illustrated • Step-by-step • Complete tune-up section

SATURDAY MECHANIC

DATSUN

Car Care Guide

For Models

B210
610
710

Editor
Louis C Forier, SAE

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Introduction To Maintenance

This book will save you money even if you have never before done your own car maintenance and repairs It will not make you a professional auto mechanic It will not even make you a "professional" do-it-yourselfer But, by being completely devoted to your particular car, and by telling you how to care for the important things that require little if any technical skill, this book will help you to save money Your own motivation is all that is necessary to go along with this handy, simply-written, confidence-building guide And even if you never do any of the routine maintenance and easy repairs which we have included, this book may nonetheless still save you money! How? By being packed with hundreds and hundreds of tips and insights about your car, this book will increase your "car savvy " So when you do entrust your car to a professional auto mechanic, you will do so intelligently, confidently and economically

In producing this guide, we first carefully selected only those money-saving items of maintenance and repair that you can surely do yourself, even if you are not a do-it-yourselfer Then we prepared the step-by-step instructions in clear, simple everyday language Finally, we illustrated all of the important points with scrores of "show-me-how" drawings and photographs As a result, you will quickly find yourself becoming familiar with routine maintenance, tune-up and replacement of easily accessible parts All of the normal maintenance parts that you may need are readily available at mass merchandisers at discount prices So, with you providing some time and a reasonable amount of effort, you will find that saving money will not only be easily possible, but actually enjoyable

In using this book you will only need a few tools and you may already own many of these You'll need a can opener to open the oil cans, a funnel or spout to pour the oil, and a rag You will also need a set of metric wrenches (socket, open end and box), a wire type feeler gauge, a flat blade type feeler gauge, screwdrivers, channel-lock pliers and possibly an inexpensive dwell/tachometer-timing light A torque wrench will be desirable if you become involved in doing major work Generally, we have avoided those jobs that require the use of special tools Jacks and lifting devices, where specified, can be rented at your local rent-all center

With this in mind, you can begin saving some of those dollars by acquainting yourself with the contents of this valuable guide You may be surprised at just how quickly you can learn the many ways of saving money by doing your own car maintenance and repairs

Trust yourself — you can do it

ENGINE IDENTIFICATION

In order to provide good, accurate car care, it is absolutely necessary that you can identify your car properly We are sure you know the year of your own car but you may not know the year and size of the engine The following chart lists the various engine code letters in relation to the engine size and year of the engine

The engine serial number is stamped on the right-hand side of the cylinder block The first group (A13, A14, L18 and L20B) designates the engine model The remaining numbers are the vehicle serial number

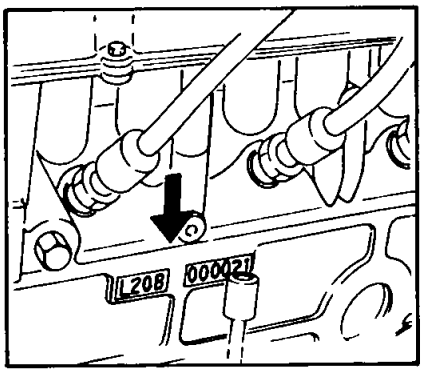


Fig 1 Engine code location

Engine Code	Displacement	Application
A13-000000	1288 cc	1974 Model B210
A14-000000	1397 cc	1975-77 Model B210
L18-000000	1770 cc	1973 Model 610 1973-74 Model 710
L20B-000000	1952 cc	1974-76 Model 610 1975-77 Model 710

MAINTENANCE

To acquaint you with the easiest kinds of maintenance first, we have included factory-recommended lubrication and maintenance lists and charts These lists contain the various mileage intervals at which certain car services are necessary Good car habits are important to long car life A small investment of your time here will pay off many times over in the long term Lack of proper maintenance is the direct cause of many problems experienced by car owners A dirty air filter can cause a drop off in engine performance or fuel mileage Hard starting may be traceable to spark plugs with badly worn electrodes, due to their not being replaced at proper intervals Engine oil that has not been changed in ages can often cause engine noise, yet clean oil and filters are, perhaps, the cheapest items in good car care Start now to keep track of your car's needs A few hours a month devoted to your car care can save you many dollars and keep your car running in top form And a car in good tune uses less fuel

1974 DATSUN B210
EMISSION-RELATED MAINTENANCE SCHEDULE

Maintenance Operation	Recommended Intervals			
	Months or Thousands of Miles, Whichever Comes First			
	12	24	36	48
Intake & Exhaust Valve Clearance	A	A	A	A
Engine Compression	I	I	I	I
Drive Belts	I	I	I	I
Engine Oil	R 4000 Miles or 4 Months			
Oil Filter	R 8000 Miles or 8 Months			
Engine Coolant		R		R
Cooling System, Hoses & Connections	I	I	I	I
Vacuum Fittings, Hoses & Connections	I	I	I	I
Carburetor Idle RPM & Mixture Ratio	A	A	A	A
Choke Mechanism (Choke Plate & Linkage)	A	A	A	A
Boost-Controlled Deceleration Device or Throttle Opener	I	I	I	I
Fuel Filter		R		R
Fuel Lines (Hoses, Piping, Connections, etc)		I		I
Carburetor Air Cleaner Element		R		R
Automatic Temperature Control Air Cleaner	I	I	I	I
Ignition Timing	A	A	A	A
Distributor Breaker Point	R	R	R	R
Spark Plugs	R	R	R	R
Distributor Cap, Rotor & Condenser	I	I	I	I
Operating Parts or Distributor, Ignition Wiring & Ignition Coil		I		I
Electric Advance Control System		I		I
Positive Crankcase Ventilation (PCV) Valve	R	R	R	R
PCV Hoses		I		I
Exhaust Gas Recirculation (EGR) Control System	I	I	I	I
Vapor Lines & Fuel Vapor Control Valve	I	I	I	I
Fuel Tank Vacuum Relief Valve		I		I

A = Adjust
R = Replace
I = Inspect, Correct or Replace as Necessary

1974 DATSUN B210
NON-EMISSION RELATED MAINTENANCE SCHEDULE

Maintenance Operation	Recommended Intervals									
Months	4	8	12	16	20	24	28	32	36	
Thousands of Miles				40	44	48	52	54		60
Brake, Clutch, Fuel & Exhaust Lines & Hoses for Proper Attachment, Leaks, Cracks, Chafing, Abrasion, Deterioration, Etc	I	I	I	I	I	I	I	I	I	I
Transmission & Differential Gear Oil	I	I	I	I	I	I	I	I	R	I
Steering Linkage & Gear Box, Suspension Parts, Propeller Shaft & Flange Bolts			I			I			I	I
Steering Linkage & Suspension Ball Joints (Grease)						R				
Propeller Shaft Joints (Lubricate if Necessary)*									I	
Engine Oil for Leaks	I	I	I	I	I	I	I	I	I	I
Accelerator, Clutch, Parking Brake, Choke, Speedometer & Hood Release Cables or Linkage (Lubricate if Necessary)		I		I		I		I		
Brake, Clutch, Coolant, Automatic Transmission & Steering Gear Fluid Level & Leaks	I	I	I	I	I	I	I	I	I	I
Brake Fluid			R			R			R	R
Brake Master Cylinder						I				
Master-Vac, Vacuum Hose & Check Valve			I			I			I	I
Battery Terminals, Fluids & Specific Gravity		I		I		I		I		
Tire & Road Wheel for Wear & Damage	I	I	I	I	I	I	I	I	I	I
Rotate Wheel Position, Inspect Wheel Balance & Alignment		I		I		I		I		
Headlight Aiming									I	
Disc Brake Pad & Other Internal Brake Components for Wear, Deterioration & Leaks**	I	I	I	I	I	I	I	I	I	I
Brake Drums, Linings & Other Internal Brake Components for Wear, Deterioration & Leaks			I			I			I	I
Wheel Bearing Grease						R				
Starter Interlock System		I		I		I		I		

I = Inspect, Repair or Replace
L = Lubricate
R = Replace
* More frequent maintenance if driven in areas using salt or other corrosive materials
** If vehicle is operated under road salt or other corrosive materials, inspect disc brake every 5,000 km (3,000 miles) or 3 months

1975-77 DATSUN B210
NON-EMISSION RELATED MAINTENANCE SCHEDULE

Maintenance Operation	Recommended Intervals									
Thousands of Miles	6 25	12 5	18 75	25	31 25	37 5	43 25	50	56 25	62 5
Months	6	12	18	24	30	36	42	48	54	60
Brake Clutch Auto Transmission & Steering Gear Fluid Levels for Leaks	I	I	I	I	I	I	I	I	I	I
Brake Fluid		R		R		R		R		R
Master-Vac Vacuum Hoses & Check Valve		I		I		I		I		I
Brake Clutch Fuel & Exhaust Systems for Proper Attachment Leaks Cracks Chafing Abrasion, Deterioration Etc	I	I	I	I	I	I	I	I	I	I
Manual Transmission & Differential Gear Oil	I	I	I	R	I	I	I	R	I	I
Steering Gear Box & Linkage, Suspension Parts & Propeller Shaft for Damaged Loose & Missing Parts		I		I		I		I		I
Steering Linkage & Front Suspension Ball Joints				L				L		
Rotate Wheel Position & Inspect Wheel Balance & Wheel Alignment		I		I		I		I		I
Disc Brake Pads & Other Brake Components for Wear Deteroration & Leaks*	I	I	I	I	I	I	I	I	I	I
Brake Drums Linings & Other Brake Components for Wear, Deterioration & Leaks*		I		I		I		I		I
Wheel Bearing (Grease)				R				R		
Master-Vac & NP-Valve for Operation	I	I	I	I	I	I	I	I	I	I
Air Conditioning System Hoses, Connections & Refrigerant Leaks	I	I	I	I	I	I	I	I	I	I
Road Test to Verify Maintenance	I	I	I	I	I	I	I	I	I	I

I = Inspect, Repair or Replace
L = Lubricate
R = Replace

* If vehicle is operated in areas using road salt or other corrosive materials, inspect every 5,000 km (3,000 miles) or 3 months whichever comes first

1973 DATSUN 610
1974 DATSUN 610 AND 710
EMISSION-RELATED MAINTENANCE SCHEDULE

Maintenance Operation	Recommended Intervals				
	Months or Thousands of Miles, Whichever Comes First				
	12	24	36	48	60*
Intake & Exhaust Valve Clearance	A	A	A	A	A
Engine Compression	I	I	I	I	I
Drive Belts	I	I	I	I	I
Engine Oil (1)	R 3000 Miles or 3 Month Intervals				
Oil Filter (2)	R 6000 Miles or 6 Month Intervals				
Engine Coolant		R		R	
Cooling System, Hoses & Connections	I	I	I	I	I
Vacuum Fittings, Hoses & Connections	I	I	I	I	I
Carburetor Idle RPM & Mixture Ratio	A	A	A	A	A
Choke Mechanism (Choke Plate & Linkage)	A	A	A	A	A
Boost-Control Deceleration Device or Throttle Opener	I	I	I	I	I
Anti-Dieseling Solenoid	I	I	I	I	I
Fuel Filter		R		R	
Fuel Lines (Hoses, Piping, Connections, Etc)		I		I	
Carburetor Air Cleaner Element		R		R	
Automatic Temperature Control Air Cleaner	I	I	I	I	I
Ignition Timing	A	A	A	A	A
Distributor Breaker Points, Condenser & Spark Plugs	R	R	R	R	R
Distributor Cap & Rotor	I	R	I	R	I
Operating Parts of Distributor, Ignition Wiring & Ignition Coil		I		I	
Electric Advance Control System		I		I	
Positive Crankcase Ventilation (PCV) Valve	R	R	R	R	R
PCV Hoses		I		I	
Vapor Lines (Hoses, Connections, Etc) & Fuel Vapor Control Valve	I	I	I	I	I
Fuel Tank Vacuum Relief Valve		I		I	
Exhaust Gas Recirculation (EGR) Control System (3)	I	I	I	I	

A = Adjust
R = Replace
I = Inspect, correct or replace as necessary
* 1974 models listed only for 48 months or 48,000 miles, whichever comes first
(1) 1974 models, 4000 miles or 4 month intervals
(2) 1974 models, 8000 miles or 8 month intervals
(3) 1974 Models Only

1973 DATSUN 610
NON-EMISSION RELATED MAINTENANCE SCHEDULE

Maintenance Operation	Recommended Intervals										
Thousands of Miles	3	6	9	12	15	18	21	24	27	30	
Months			33	36	39 54	42	45	48	51 57		60
Brake & Clutch Pedal Free Play		I		I		I		I		I	I
Brake & Clutch System (Cylinders, Hoses Etc) for Leaks and Deterioration	I	I	I	I	I	I	I	I	I	I	I
Foot & Parking Brake Operation	I	I		I		I		I		I	I
Foot Operated Pedal Bushings				L				L			L
Parking Brake Linkage								L			
Brake Linings & Drums for Wear				I				I			I
Disc Brake Pads		I	I	I	I	I	I	I	I	I	I
NP-Valve for Operation								I			
Brake Cylinder & Caliper Assembly										O	O
Transmission & Differential Gear Oil Level	I	I	I	I	I	I	I	I	I	R	R
Retighten Steering Gear Box & Linkage		I		I		I		I		I	I
Steering Linkage Ball Joints										L	L
Shock Absorber				I				I			I
Retighten Suspension Parts		I		I		I		I		I	I
Suspension Ball Joints										L	L
Wheel Bearing (Grease)										R	R
Retighten Propeller Shaft Universal Joint Flange Bolts			I					I			I
Wheel Discs for Damage		I		I		I		I		I	I
Propeller Shaft Joints										L	L
Rear Axle Drive Shaft Joints & Ball Spline										L	L
Engine Oil for Leaks		I		I		I		I		I	I
Accelerator Linkage		L		L		L		L		L	L
Brake Fluid				R				R			R
Master-Vac for Operation				I				I			I
Master-Vac								O			
Steering Gear Box Oil Level		I		I		I		I		I	I
Automatic Transmission Oil Level	I	I	I	I	I	I	I	I	I	I	I
Battery Specific Gravity				I				I			I
Windshield Wiper Blades		I		I		I		I		I	I
Wheel Balance & Rotation		I		I		I		I		I	I
Front Wheel Alignment & Turning Angle				A				A			A
Headlight Aiming										A	A
Road Test to Verify Maintenance	I	I	I	I	I	I	I	I	I	I	I

A = Adjust
I = Inspect, Repair or Replace
L = Lubricate
O = Overhaul
R = Replace

1974 DATSUN 610 AND 710
NON-EMISSION RELATED MAINTENANCE SCHEDULE

NOTE Use 1974 B210 Maintenance Schedule with the following additions										
Maintenance Operation	**Recommended Intervals**									
Months	4	8	12	16	20	24	28	32	36	
Thousands or Miles				40	44	48	52	46		60
Rear Axle Drive Shaft Joints & Ball Spline (Lubricate if Necessary) (710 Only)									I	
Air Conditioning System Hoses, Connections & Refrigerant Leaks	I	I	I	I	I	I	I	I	I	I

I = Inspect, Repair or Replace

1975-77 DATSUN B210, 610 AND 710
EMISSION-RELATED MAINTENANCE SCHEDULE

Maintenance Operation	**Recommended Intervals**			
Thousands of Miles	12	24	36	48
Months	12 5	25	37 5	50
Intake & Exhaust Valve Clearance	A	A	A	A
Drive Belts	I	I	I	I
Engine Oil & Filter (1)	R 6250 Mile Intervals			
Engine Coolant		R		R
Cooling System Hoses & Connections	I	I	I	I
Vacuum Fitting Hoses & Connections	I	I	I	I
Carburetor Idle RPM & Mixture Ratio	A	A	A	A
Choke Mechanism (Choke Plate & Linkage)	A	A	A	A
Boost-Controlled Deceleration Device or Throttle Opener	I	I	I	I
Fuel Filter (2)		R		R
Fuel Lines (Hoses, Piping, Connections, Etc)		I		I
Carburetor & Air Pump Air Cleaner Filter (2)		R		R
Automatic Temperature Control Air Cleaner	I	I	I	I
Ignition Timing	A	A	A	A
Distributor Breaker Point	R	R	R	R
Spark Plugs	R	R	R	R
Distributor Cap, Rotor & Condenser	I	I	I	I
Operating Parts of Distributor & Ignition Wiring		I		I
Vacuum Switching Valve		I		I
Spark Delay Valve		R		R
Positive Crankcase Ventilation (PCV) Valve & Filter (2)		R		R

1975-77 DATSUN B210, 610 AND 710
EMISSION-RELATED MAINTENANCE SCHEDULE
(Continued)

Maintenance Operations	Recommended Intervals			
Thousands of Miles	12	24	36	48
Months	12 5	25	37 5	50
Ventilation Hoses		I		I
Exhaust Gas Recirculation (EGR) Control System	I	I	I	I
Exhaust Gas Recirculation (EGR) Warning System	A	A	A	A
Vapor Lines	I	I	I	I
Fuel Tank Vacuum Relief Valve		I		I
Charcoal Canister Filter		R		R

A = Adjust
I = Inspect, Correct or Replace if Necessary
R = Replace
(1) If vehicle is operated under severe conditions, short distance driving, extensive idling or driving in dusty conditions, change engine oil every 5,000 km (3000 miles) or 3 months whichever comes first
(2) More frequent maintenance if under dusty driving conditions
NOTE Not all maintenance operations will apply to all Datsun models If not applicable to your model Datsun, skip the operation

1975-77 DATSUN 610 and 710
NON-EMISSION RELATED MAINTENANCE SCHEDULE

Maintenance Operation	Recommended Intervals									
Thousands of Miles	6 25	12 5	18 75	25	31 25	37 5	43 75	50	56 25	62 5
Months	6	12	18	24	30	36	42	48	54	60
Brake, Clutch Automatic Transmission & Steering Gear Fluid Levels & Leaks	I	I	I	I	I	I	I	I	I	I
Brake Fluid		R		R		R		R		R
Master-Vac Vacuum Hoses & Check Valve		I		I		I		I		I
Air Conditioning System Hoses, Connections & Leaks	I	I	I	I	I	I	I	I	I	I
Brake, Clutch, Fuel & Exhaust Systems for Proper Attachment, Leaks, Cracks & Deterioration	I	I	I	I	I	I	I	I	I	I
Manual Transmission & Differential Gear Oil	I	I	I	R	I	I	I	R	I	I
Steering Gear Box & Linkage, Suspension Parts & Propeller Shaft for Damaged, Loose or Missing Parts		I		I		I		I		I
Steering Linkage & Front Suspension Ball Joints				L				L		

1975-77 DATSUN 610 and 710
NON-EMISSION RELATED MAINTENANCE SCHEDULE
(Continued)

Maintenance Operation	Recommended Intervals									
Thousands of Miles	6 25	12 5	18 75	25	31 25	37 5	43 75	50	56 25	62 5
Months	6	12	18	24	30	36	42	48	54	60
Rear Axle Drive Shaft Joints (1975 610 Only)				L				L		
Retighten Body Mountings (1976 710 Only)				I				I		
Rotate Wheel Position & Inspect Wheel Balance & Wheel Alignment		I		I		I		I		I
Disc Brake Pads & Other Brake Components for Wear, Deterioration & Leaks*	I	I	I	I	I	I	I	I	I	I
Brake Drums, Linings & Other Brake Components for Wear, Deterioration & Leaks*		I		I		I		I		I
Wheel Bearing Grease				R				R		
Starter Interlock System		I		I		I		I		I
Master-Vac & NP-Valve for Operation	I	I	I	I	I	I	I	I	I	I
Road Test to Varify Maintenance	I	I	I	I	I	I	I	I	I	I

I = Inspect, Repair or Replace
L = Lubricate
R = Replace
*If the vehicle is operated in areas using road salt or other corrosive materials inspect every 5 000 miles or 3 months whichever comes first

APPROXIMATE FLUID CAPACITIES*

Engine Series	Cooling System (Qts)**	Engine Oil (Qts)***
A13	5-1/2	3-3/4
A14	6	3-3/8
L18	6-1/2	4
L20B	7-3/4	4-1/4

*Capacities are rounded to nearest whole number when a small fraction is involved
**General practice is to use a thermostat in the 190°F – 195°F range for proper emission control systems operation
***Does not include extra 1/2 litre (1/2 quart) required when oil filter is replaced

CHANGING ENGINE OIL & OIL FILTER

The best time to change the engine oil is after the engine has been running for a while This allows the warm oil to drain more quickly and helps to remove sludge that may have accumulated in the oil pan The oil pan drain plug is located in the large bulge of the pan It is usually found at the rear lower edge or side of the bulge, Fig 2

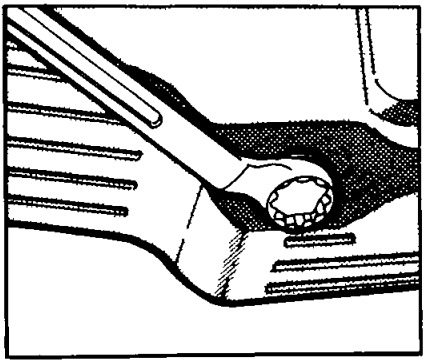


Fig 2 Draining engine oil

Use a large plastic pan capable of holding about 6 quarts Place the pan under the drain plug and remove the drain plug You can use an adjustable wrench in some cases to remove the plug In other cases, you may find a recessed head on the drain plug which means you may need to get the tool used for this purpose Auto parts stores carry this tool and it is inexpensive compared to the money you save by changing your own oil and filter Allow the oil to drain into the pan and then replace the plug Screw it in a few turns with your fingers to make sure it is not cross-threaded Tighten the plug *If you should cross thread the plug and strip the threads, don't worry The parts stores carry replacement plugs made just for this reason*

Next, using an oil filter strap wrench, unscrew the oil filter, Fig 3

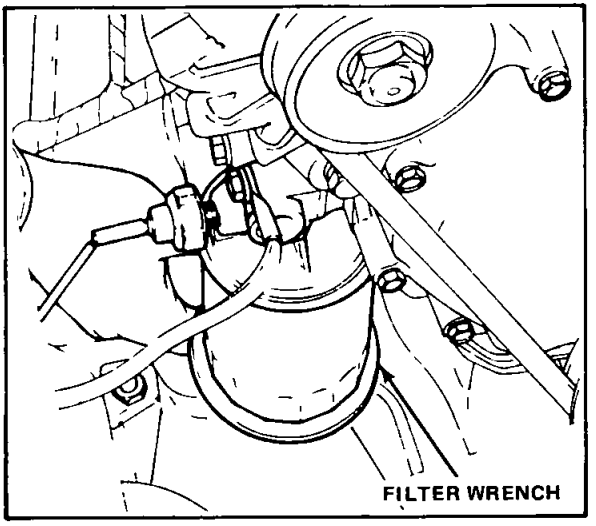


Fig 3 Removing oil filter

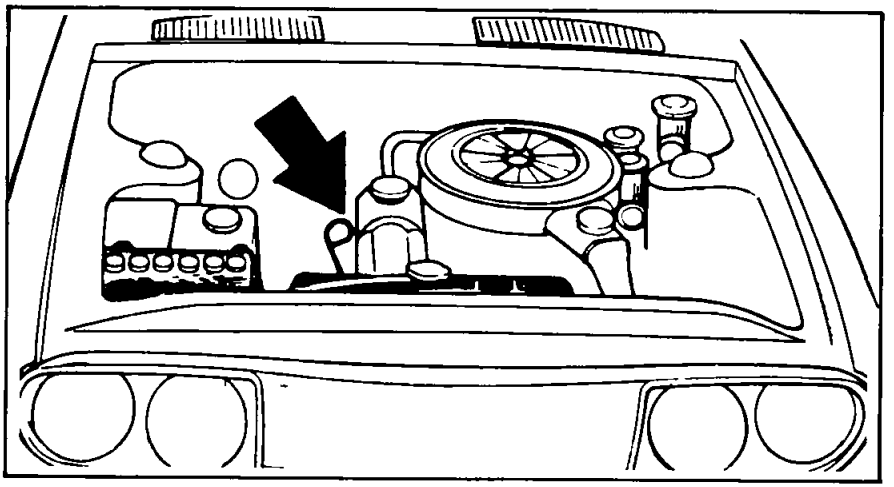


Fig 4 Dipstick location

The filter is found on the side of the engine block and it resembles a large can with fluted edges so you can grip it with your hand As you unscrew the filter keep it over the drain pan because it contains oil Pour the oil out of it and dispose of the old filter in the box the new one came in Next, smear a little oil on the rubber seal at the bottom of the new oil filter and screw the new filter into place on the engine

Follow the instructions on the box of the new filter and *do not overtighten the filter Use only your hands, not tools, to tighten the filter* Dispose of the old oil in a large empty plastic bleach bottle generally found around the house Do not pour the old oil down a water drain or sewer as it can pollute the water supply Dispose of it in the trash can Finally, refill the engine with the new oil making sure you do not forget the extra 1/2 quart to be added for the filter Consult the chart for the proper quantity but also, after filling the engine, use the dipstick to make sure it is filled to the proper level, Figs 4 and 5 You should be able to complete this task in about an hour

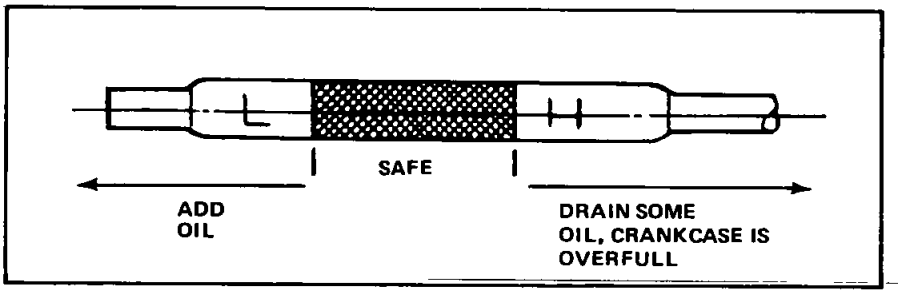


Fig 5 Reading dipstick

COOLING SYSTEM SERVICE

One of the simplest services you can perform on your Datsun is to drain the cooling system of the old coolant and refill it with fresh all-year coolant And it will take you about an hour to do this job More and more the name "anti-freeze" is disappearing from these containers and being replaced by the name "summer/winter coolant " Rightly so too, because these coolants do more than just prevent freezing in the winter They also prevent boiling over in the summer Cars with air conditioners especially need this all-year coolant or they will be likely candidates for overheating during hot summer months If the coolant in your car's radiator is dirty, rusty or contains particles of rubber or other contaminants, drain and flush the cooling system now and save the headache that could come while driving on the freeway

It is good practice to thoroughly check every component in the cooling system at this time Any hoses or belts that show signs of wear or cracks should be replaced now so you can be assured the system is in good order Also, if you've been having trouble getting heat from the heater in cold weather, it is advisable at this time to replace the thermostat with one of the proper opening temperature

Proceed as follows on a cold engine

1 Open the radiator petcock at the bottom of the radiator, Fig 6, and allow the coolant to drain into a pan Remove the radiator cap to speed this process

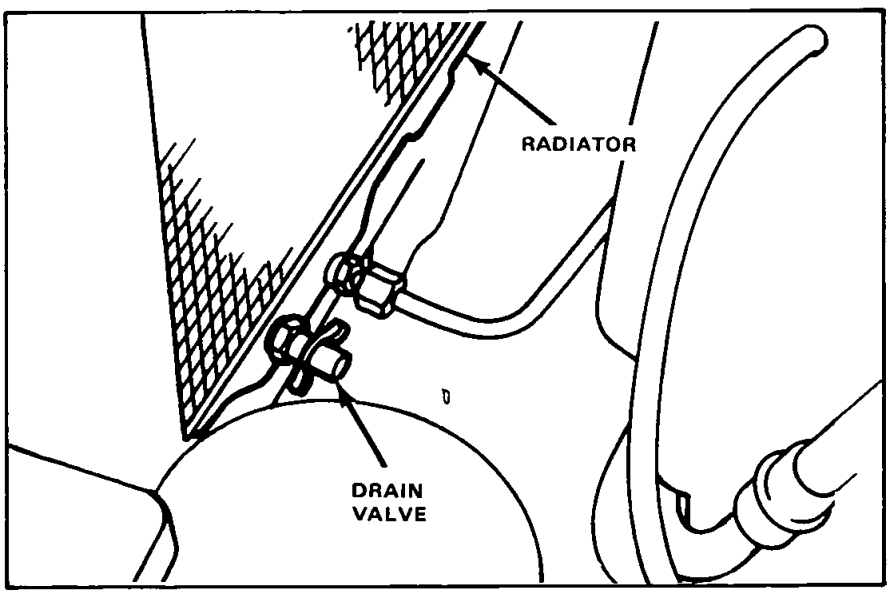


Fig 6 Radiator petcock location

2 When the cooling system is completely drained, close the petcock and refill the radiator with plain water and a cooling system flush which can be purchased locally at any auto store
3 Replace the cap, start the engine and allow it to run until warmed up About 15 minutes should be enough
4 Stop the engine and allow it to cool thoroughly before attempting to remove the radiator cap
5 When sufficiently cooled down, again open the petcock and remove the radiator cap, allowing the system to drain Removing the lower radiator hose at the radiator will help in draining the engine block
6 When the cooling system is completely drained, close the radiator petcock and attach the lower hose, if removed Refill the system with fresh coolant in at least a 50/50 solution of water mixed with the new coolant
7 Start the engine and allow it to warm up and circulate the coolant to eliminate any air pockets in the system
8 Check the coolant level, add coolant to the system again as needed and wash off the radiator cap and seat in the radiator filler neck Reinstall the cap and check the system for leaks, Fig 7

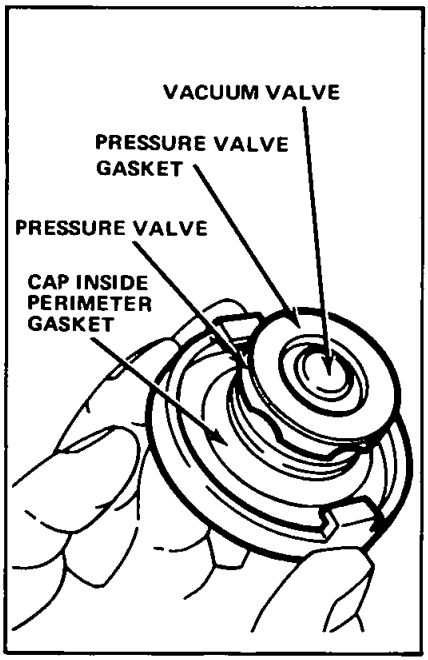


Fig 7 Inspect radiator cap

THERMOSTAT REPLACEMENT

Thermostat replacement takes about half an hour The thermostat is a key part of the cooling system because it regulates coolant circulation, Figs 8 and 9 A thermostat that sticks open causes slow engine warm up, poor heater operation and may prevent emission systems from operating properly A thermostat that sticks closed will cause engine overheating

If you suspect you have a thermostat problem, replacing the old one is a simple task But, before you replace the thermostat, check for broken or damaged hoses, inspect the radiator for proper coolant level or loose radiator cap and check for coolant leaks or other damage If all these checks prove OK, replace the thermostat as follows

1 Allow the engine to cool, if hot Open the radiator petcock and drain the coolant into a clean pan The petcock is located at the bottom of the radiator, Fig 6

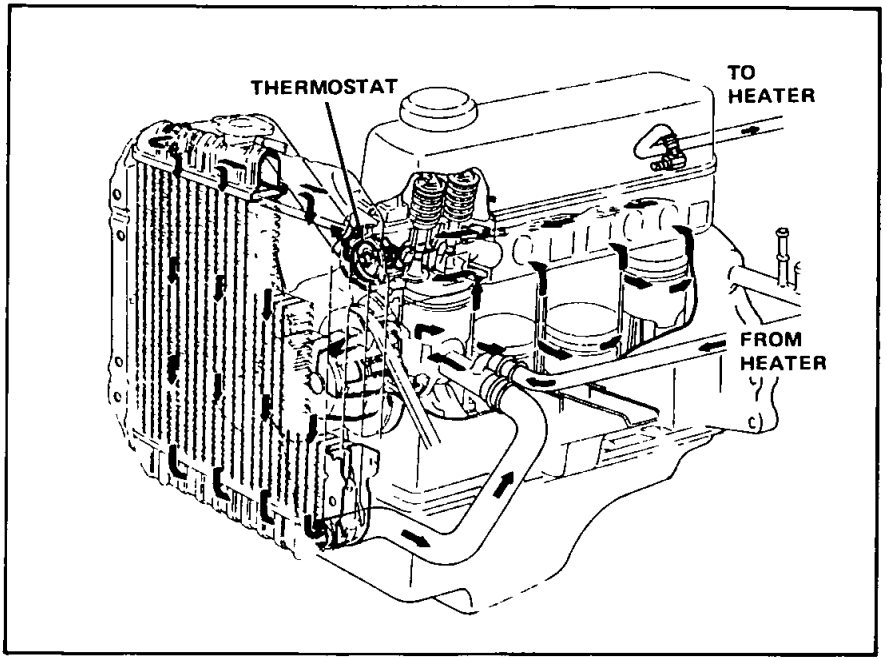


Fig 8 Thermostat location – Model B210

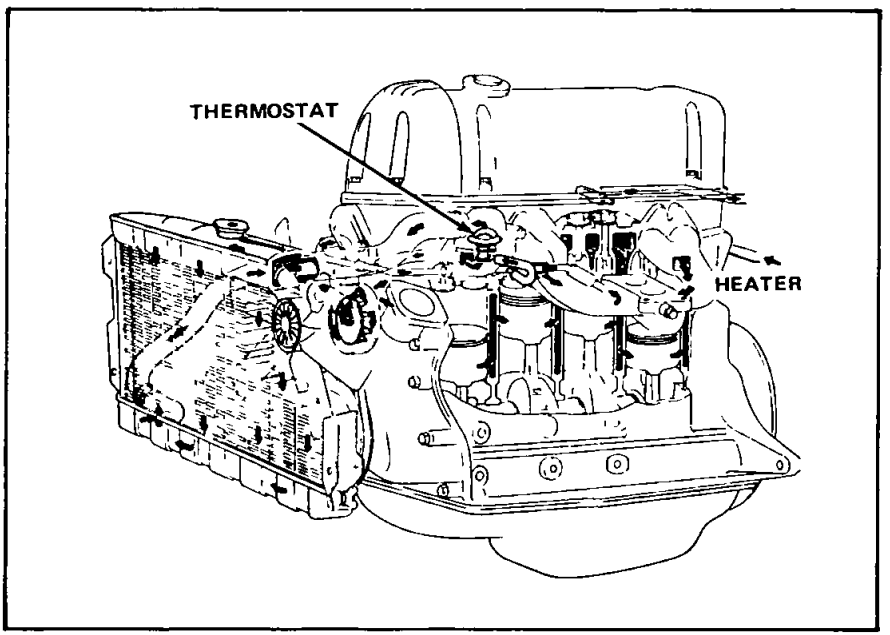


Fig 9 Thermostat location – Models 610 and 710

2 Disconnect the upper radiator hose at the thermostat housing water outlet
3 Remove the two securing nuts, water outlet, gasket and thermostat from the thermostat housing, Fig 10
4 Before replacing, make sure the gasket surfaces are absolutely clean of the old gasket material or the connection may leak Install a new thermostat gasket and the new thermostat
5 Install the water outlet and tighten the two securing nuts evenly from side to side so as not to warp the housing Also, be careful not to overtighten the nuts because you might crack or break the thermostat housing
6 Inspect the used coolant If it's dirty or contaminated, replace it with fresh coolant in at least a 50/50 mixture of water and new coolant, or according to the instructions on the coolant container Fill the cooling system to the recommended capacities (See Refill Capacities Chart)

HOSE REPLACEMENT

Periodically, but at least at the beginning of Spring and Fall, make it a point to inspect all hoses for cracking, rotting, extreme softness when squeezed, or extreme weathering, Fig 11 Replace any hose whose condition is questionable Figure about an hour per hose to do the job It is a lot less trouble to inspect and replace hoses at your convenience than it is to find yourself away from home with a broken hose, no coolant, and an overheated engine And, if one hose is found to be in poor condition, it would be safe to

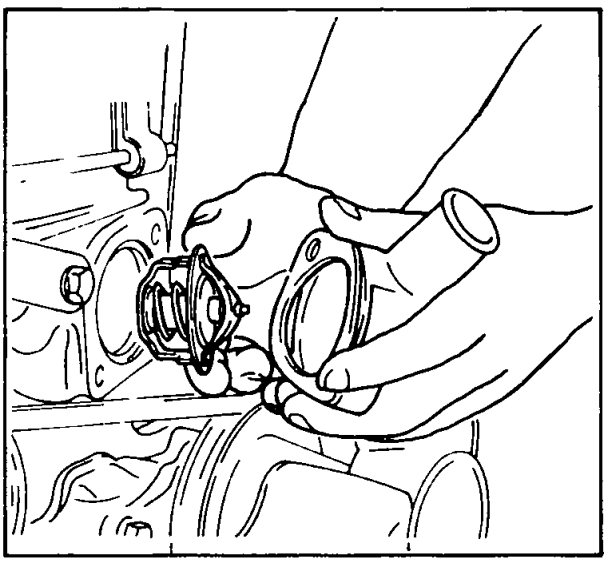


Fig 10 Removing thermostat

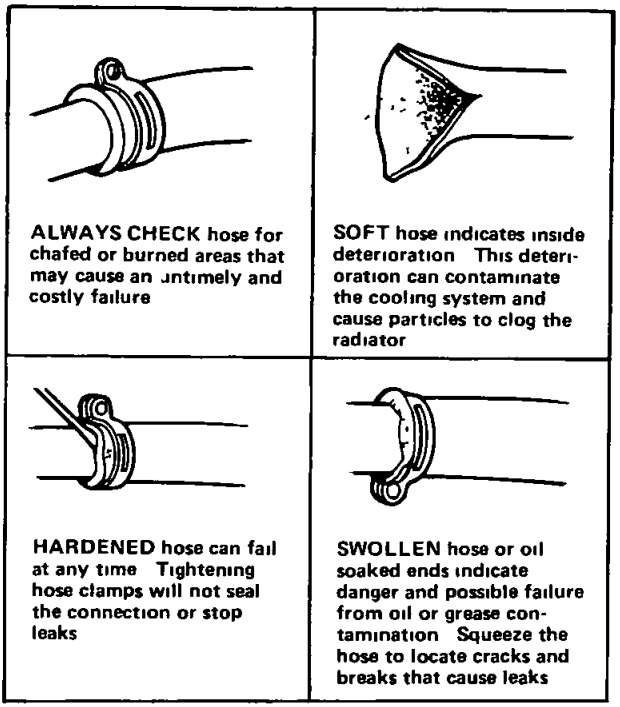

ALWAYS CHECK hose for chafed or burned areas that may cause an untimely and costly failure
SOFT hose indicates inside deterioration This deterioration can contaminate the cooling system and cause particles to clog the radiator
HARDENED hose can fail at any time Tightening hose clamps will not seal the connection or stop leaks
SWOLLEN hose or oil soaked ends indicate danger and possible failure from oil or grease contamination Squeeze the hose to locate cracks and breaks that cause leaks

Fig 11 Hose condition chart

assume that the rest of the hoses are pretty much in the same condition

To replace hoses, proceed as follows

1 Drain the coolant into a pan by opening the petcock at the bottom of the radiator When the radiator is completely drained, close petcock so you won't forget it later
2 Loosen the clamps at each end of the hose to be removed This can be done quite easily with a screwdriver, but do not place your free hand beneath the clamp, in case the screwdriver slips If the clamps are old and of the wire type, it would be well to replace the clamps
3 Twist the hose back and forth to loosen the hose from the connector Slide the hose off connector when free, Fig 12 If the hose is dried and cracked and remants of it remain on the connector, clean connector thoroughly with a scraper or putty knife *Do not pry under the hose as the connector is soft and may be damaged*
4 Position the new clamps on the new hose at least 3 mm (1/8 inch) from each end of the hose and slip the hose on the connector, Fig 13
5 When tightening a clamp, be sure the clamp is positioned beyond the bead and in the center of the clamping surface of the connector, Fig 14

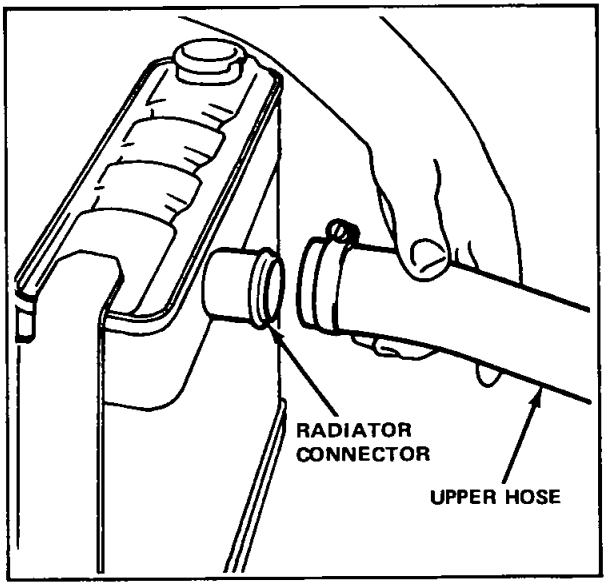


Fig 12 Removing radiator hose

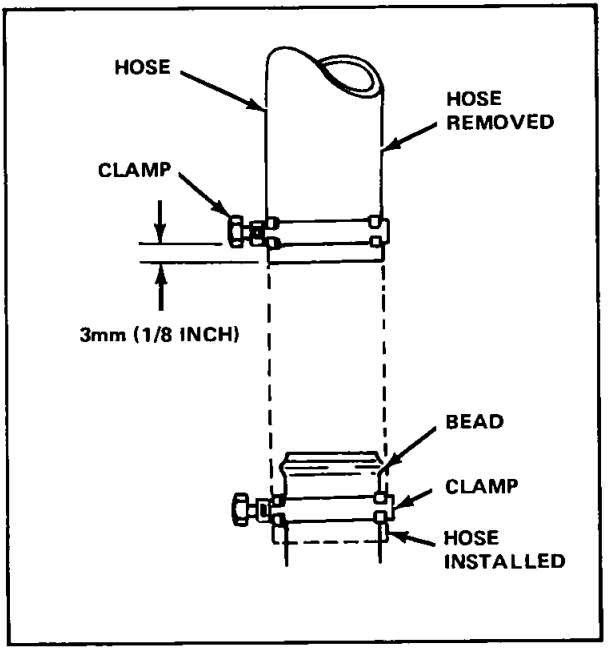


Fig 13 Positioning clamp on hose

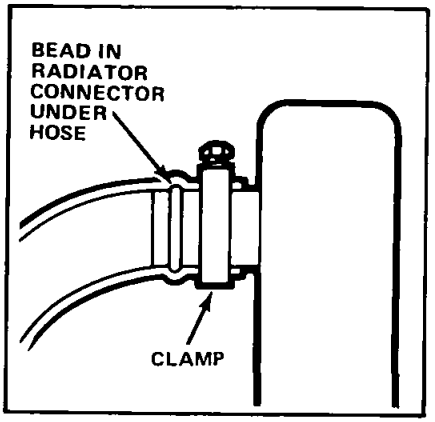


Fig 14 Installing radiator hose

6 Add the fresh coolant in the proper amount as listed in the fluid capacities chart or the chart found on the container, to maintain protection

DRIVE BELT REPLACEMENT

Proper tension is important to drive belts, not only to minimize noise and prolong service life of the belt, but also to protect the parts being driven by the belt A loose belt may cause improper

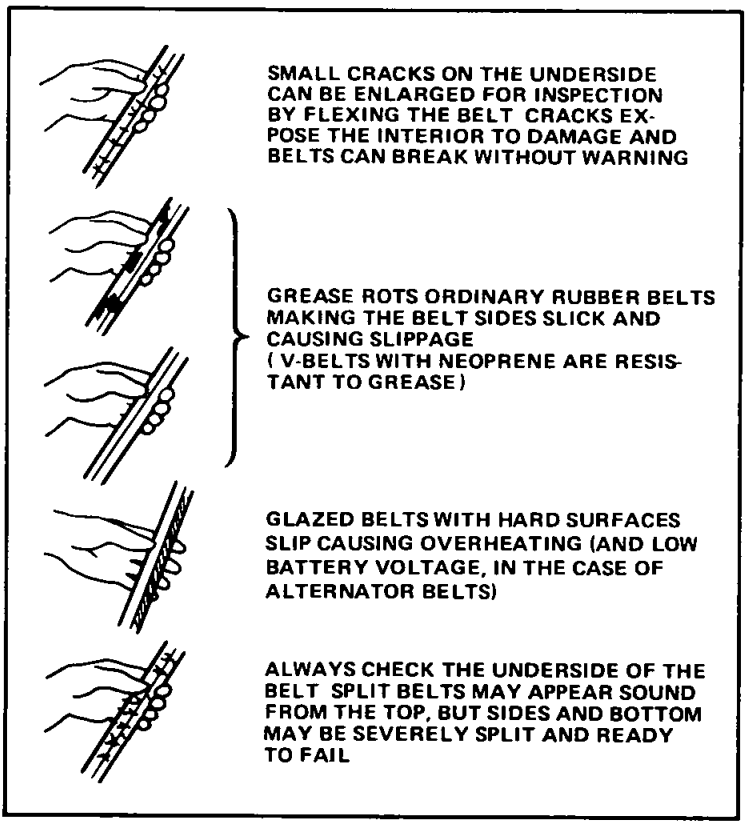

SMALL CRACKS ON THE UNDERSIDE CAN BE ENLARGED FOR INSPECTION BY FLEXING THE BELT CRACKS EXPOSE THE INTERIOR TO DAMAGE AND BELTS CAN BREAK WITHOUT WARNING
GREASE ROTS ORDINARY RUBBER BELTS MAKING THE BELT SIDES SLICK AND CAUSING SLIPPAGE
(V-BELTS WITH NEOPRENE ARE RESISTANT TO GREASE)
GLAZED BELTS WITH HARD SURFACES SLIP CAUSING OVERHEATING (AND LOW BATTERY VOLTAGE, IN THE CASE OF ALTERNATOR BELTS)
ALWAYS CHECK THE UNDERSIDE OF THE BELT SPLIT BELTS MAY APPEAR SOUND FROM THE TOP, BUT SIDES AND BOTTOM MAY BE SEVERELY SPLIT AND READY TO FAIL

Fig 15 Belt condition chart

alternator, fan and water pump operation A belt too tight places a strain on the water pump and alternator bearings You should be able to adjust most belts in a half hour and replace drive belts in less than an hour or two

All belts should be inspected at regular 12-month intervals Carefully examine the belts by turning a portion of the belt over so you can see the underside, Fig 15

Belts that are frayed, cut, glazed or show uneven wear, should be replaced It is also reasonable to assume that if one belt requires replacement the others may as well Replace belts as follows

1 Loosen the pivot bolt on the alternator, power steering pump or air conditioner compressor
2 After loosening the bolt, force the unit towards the engine to get slack in the belt This will make it possible for the belt to be worked off the pulleys and over the fan
3 When replacing the belts, install the rearward belt first and each belt in turn towards the outermost one
4 When all belts are in position, swing the units away from the engine to tighten the belts Tighten pivot bolts, but not too tight Using a ruler, depress the belt at the midpoint between the pulleys and measure the amount of deflection, Fig 16 The amount of deflection should be about 13 mm (1/2 inch) Move the units until you get a 13 mm (1/2-inch deflection) A good belt is too loose if a squeal is heard when the accelerator is depressed rapidly
5 Tighten the pivot bolts

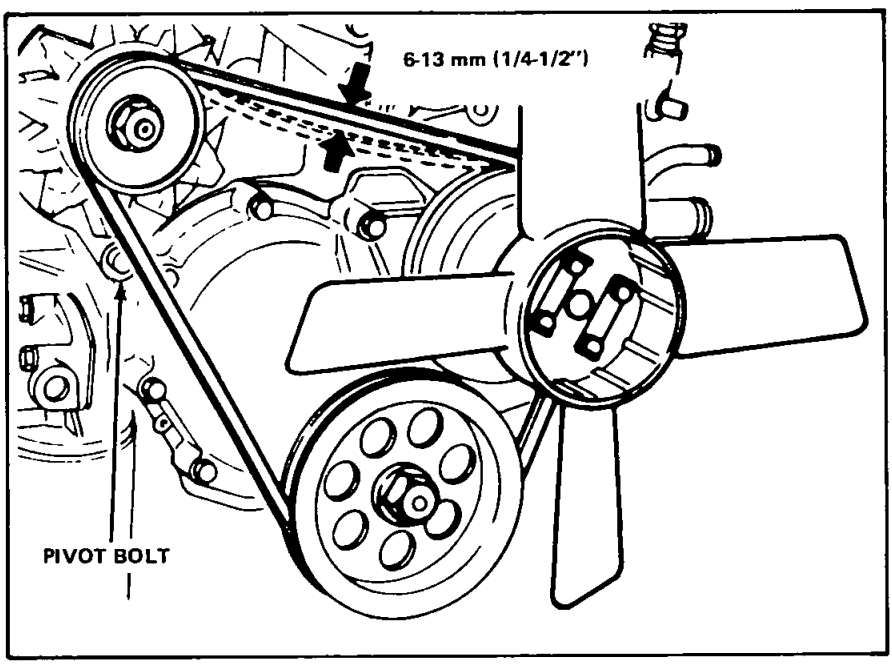


Fig 16 Measuring belt deflection

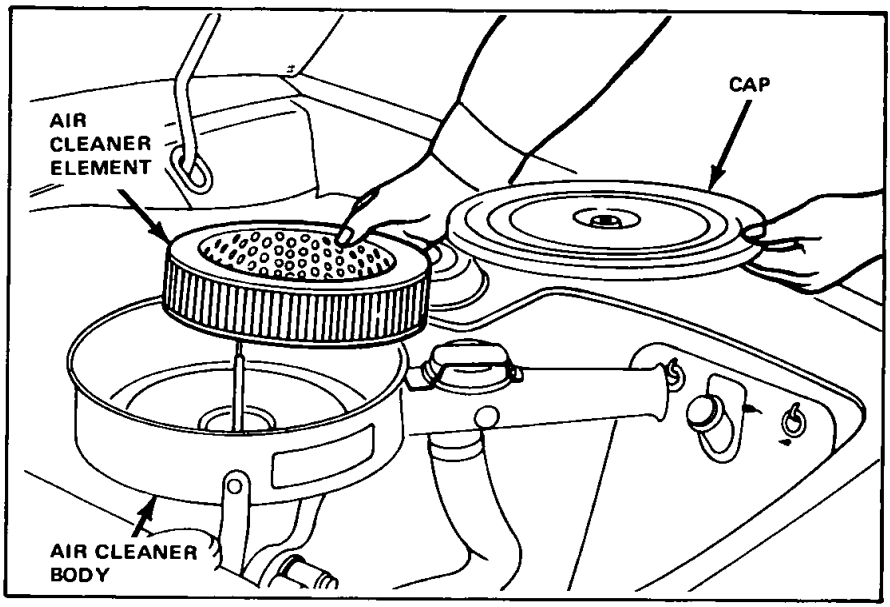


Fig 17 Removing air cleaner element

AIR CLEANER ELEMENT REPLACEMENT

Clogged air cleaners contribute to poor engine performance and low gasoline mileage

Check and replace the air cleaner element at the intervals recommended in the maintenance charts in the front of this book The top of the air cleaner is secured by a wing nut which must be removed in order to lift the cap from the air cleaner body, Fig 17

After the cap is removed, lift out the element and check it by looking through the element towards a light, Fig 18 If you cannot see the light, the element is dirty and should be replaced with one of the same type Air cleaner element replacement usually takes only a matter of minutes

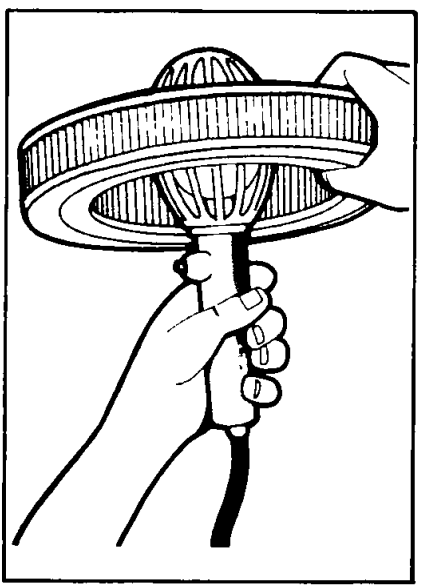


Fig 18 Checking condition of air cleaner element

FUEL FILTER REPLACEMENT

A clogged fuel filter can cause hard starting, contribute to poor driveability or even cause the engine to stop entirely The fuel filter used in your Datsun is a cartridge type that uses a paper filter element which cannot be cleaned See Figs 19 and 20 for location Replace the element at the specified intervals shown in maintenance charts in front of this book or as it becomes clogged or restricted, Fig 21

To replace fuel filter

1 Disconnect the fuel inlet and outlet lines from the fuel filter and remove the filter as an assembly
2 Attach the fuel inlet and outlet lines to the new filter and start the engine to check for leaks

Be careful when working on the fuel system Make sure the engine is cool to reduce the danger of fire from spilled gasoline Residual pressure in the fuel line may cause gasoline to spray out as you disconnect the fuel lines To be on the safe side, have an approved-type fire extinguisher readily available for use

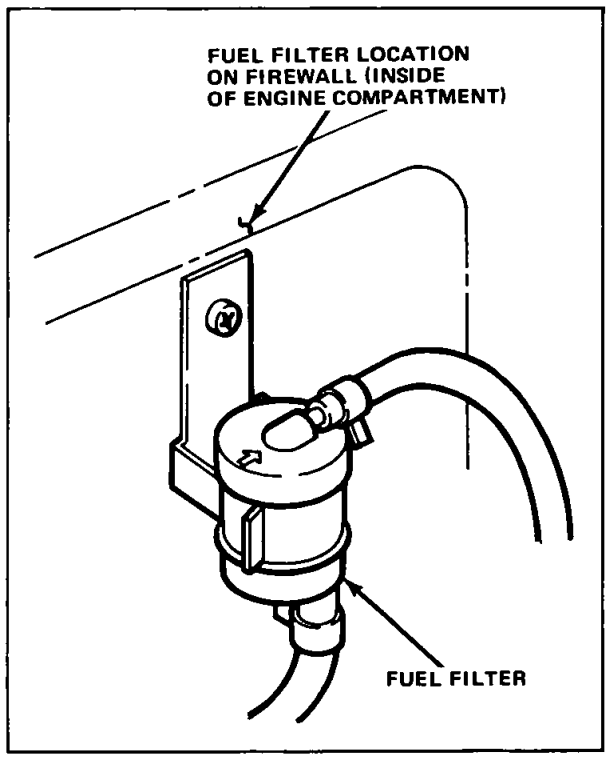


Fig 19 Fuel filter location, B210

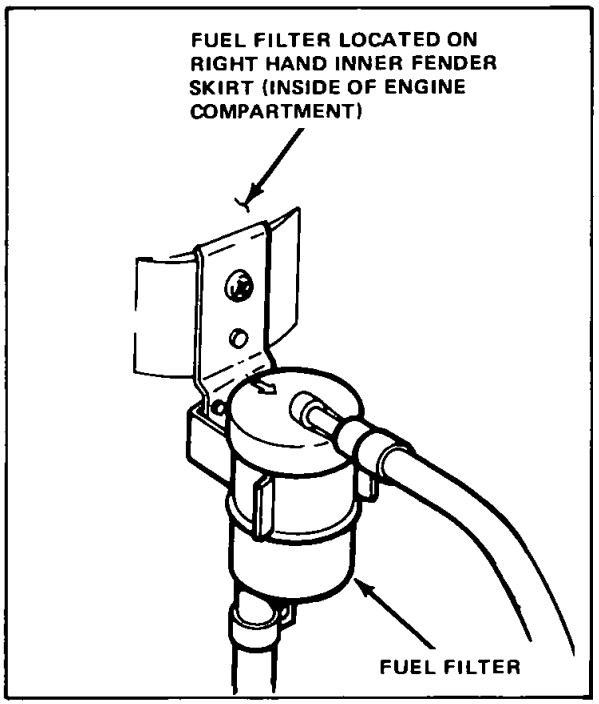


Fig 20 Fuel filter location – Models 610 and 710

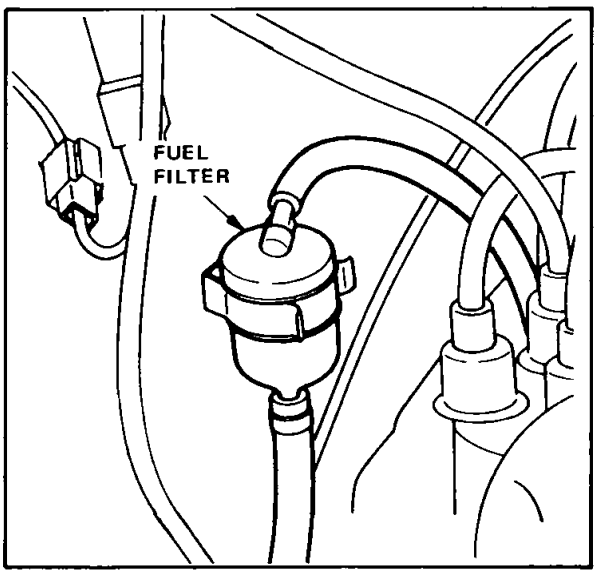


Fig 21 Disposable fuel filter cartridge

CONDITION	RAPID WEAR AT SHOULDERS	RAPID WEAR AT CENTER	CRACKED TREADS	WEAR ON ONE SIDE *	FEATHERED EDGE	BALD SPOTS *	SCALLOPED * WEAR
CAUSE	UNDER-INFLATION OR LACK OF ROTATION	OVER-INFLATION OR LACK OF ROTATION	UNDER-INFLATION OR EXCESSIVE SPEED	EXCESSIVE CAMBER	INCORRECT TOE	UNBALANCED WHEEL OR TIRE DEFECT	LACK OF ROTATION OF TIRES OR WORN OR OUT-OF-ALIGNMENT SUSPENSION
CORRECTION	ADJUST PRESSURE TO SPECIFICATIONS WHEN TIRES ARE COOL ROTATE TIRES			ADJUST CAMBER TO SPECS	ADJUST TOE-IN TO SPECS	DYNAMIC OR STATIC BALANCE WHEELS	ROTATE TIRES AND INSPECT SUSPENSION

* IF YOU NOTICE THIS KIND OF TIRE WEAR, YOU WILL HAVE TO TAKE YOUR CAR TO A QUALIFED FRONT-END SHOP FOR ANY NECESSARY ADJUSTMENTS

Fig 22 Tread wear patterns

TIRE CARE

Get in the habit of making tire inspection a part of your routine car check Inspect tires for wear which may be caused by incorrect wheel alignment, improper tire pressure or an out-of-balance condition It will take you about a half-day's work for tire inspection, rotation and pressure check, so plan ahead for this service

Tire pressure should be checked while the tires are cold, before driving the car any distance An out-of-balance tire and wheel assembly or improper wheel alignment will have to be checked by a skilled mechanic using equipment made for this purpose, Fig 22

Tire rotation is as important to good tire life as any of the items mentioned previously Look at the various rotation

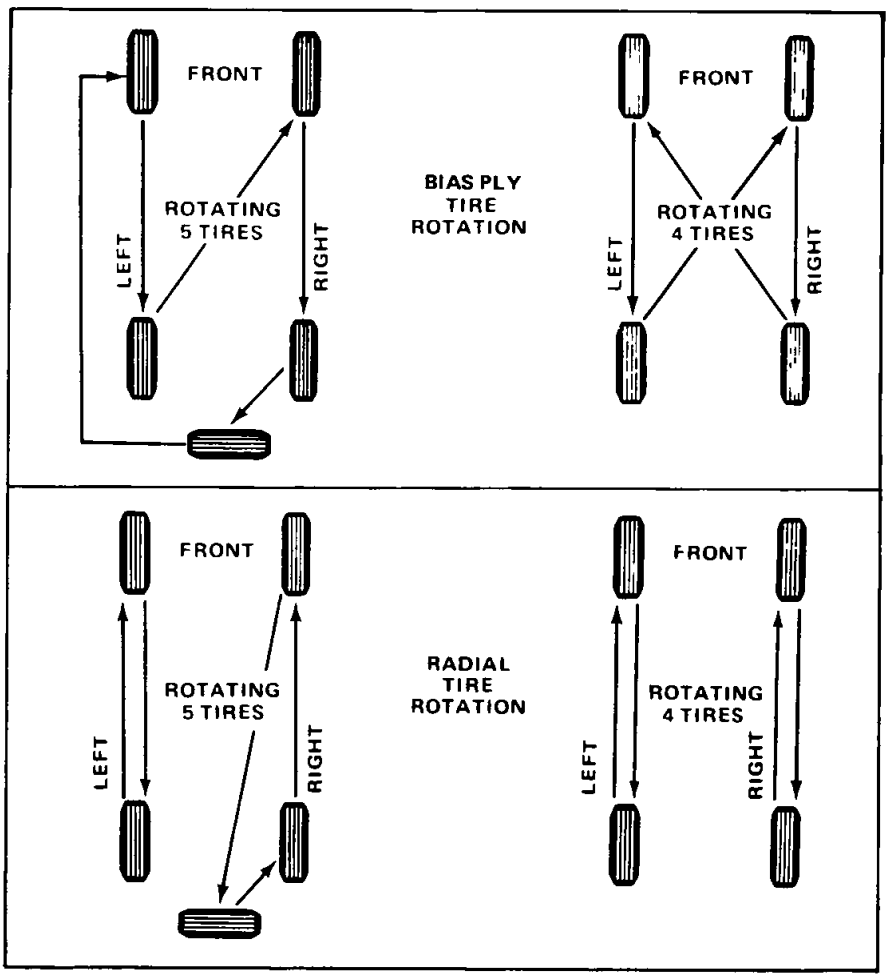


Fig 23 Tire rotation plans

plans shown in Fig 23 and follow the plan that applies to your type of tire Obviously, your local garage can rotate tires quickly using a lift and power tools But since the name of the game is saving money, let us show you a little tip that can save you money twice a year Think of how many times you may have had your local garage install and remove your snow tires A small investment in a set of extra wheels will enable you to install and remove your own tires quite easily Simply have your snow tires mounted on the extra wheels Then, when it is time for their use, no special equipment will be needed

Remember too that studded or radial snow tires must always be reinstalled in the same position on the car So when you remove them be sure they are marked either right or left

Most importantly, replace any tire that is worn to the point that thread wear bars are showing, Fig 24 Statistics

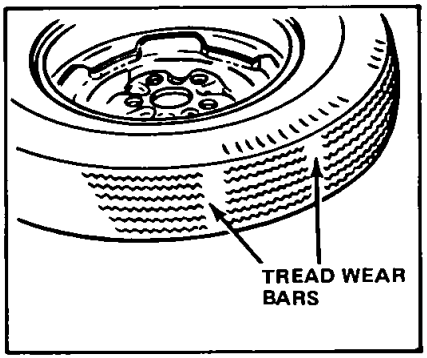


Fig 24 Tire wear bars showing

show about 90% of all flats and blow-outs occur in the last 10% of tire life, so by replacing tires that are excessively worn you can avoid the upset of having a tire problem on the road when you least expect it Having to purchase a tire under these conditions can be costly, whereas replacing it beforehand will allow you to shop and take advantage of the many tire sales offered locally by tire chains or department stores

Tune-Up

Why do we need a tune-up? The whole idea of keeping the engine tuned is more important today than it ever was in the past Air quality and the scarcity of fuels makes it necessary for us to change our old habits

You benefit directly by keeping your car in good running condition It will operate more efficiently, which simply means more miles per gallon or less money out of your pocket each time you pull up to the gas pump And the air we all breathe will be cleaner because of this better running engine

Don't be afraid of not having the ability to do this kind of work We are going to be helping you These straightforward routines are easily understood and by their nature will save you money A tune-up takes some time though, so plan a half-day's work *after* getting all of your new parts

Spark plugs and all ignition parts can be purchased at local auto-accessory stores at greatly reduced prices All suppliers may not carry all brands of spark plugs but your supplier will have a cross reference chart which will enable him to supply you with another kind of spark plug having the same qualities

CHECKING COMPRESSION

Before doing any tune-up work, it's a good idea to check the engine compression, especially if your car is using too much oil You don't *have* to make a compression test, but if you do have a compression problem, a tune-up won't be much help

If the engine compression is normal, then the lowest reading cylinder will be at least 75% of the highest reading cylinder with no cylinder reading lower than 700 kPa (100 psi) Variations between cylinders should be less than 140 kPa (20 psi) If the engine does not meet these requirements, a tune-up will do little to help and you must decide whether you should consult a professional mechanic about having the engine overhauled It might be more economical to swap the engine, if you can locate an engine at a salvage yard from a wrecked car

Here's how to test compression Label each of the spark plug wires so you can easily identify which plug they were removed from Then remove the air cleaner assembly and all of the spark plugs Block the choke valve and the throttle valve in the wide open position Remove the thick wire from the center of the distributor cap, and connect it to ground (the engine block) Obtain a compression gauge and install it into one of the spark plug holes Using the ignition key, crank the engine about four revolutions and record the reading from the gauge Continue this process until all of the cylinders have been checked Compare the readings If readings are low, squirt about a tablespoon of engine oil into the cylinders at the holes where the spark plugs belong Check the compression again If the readings are now much higher, worn piston rings are indicated and an engine overhaul may be in order If the readings do not improve, burned valves or valves not seating properly may be the likely cause and a valve job may be needed If low readings are obtained from two adjacent cylinders, the cause may be a leaky head gasket which would permit coolant to get into the

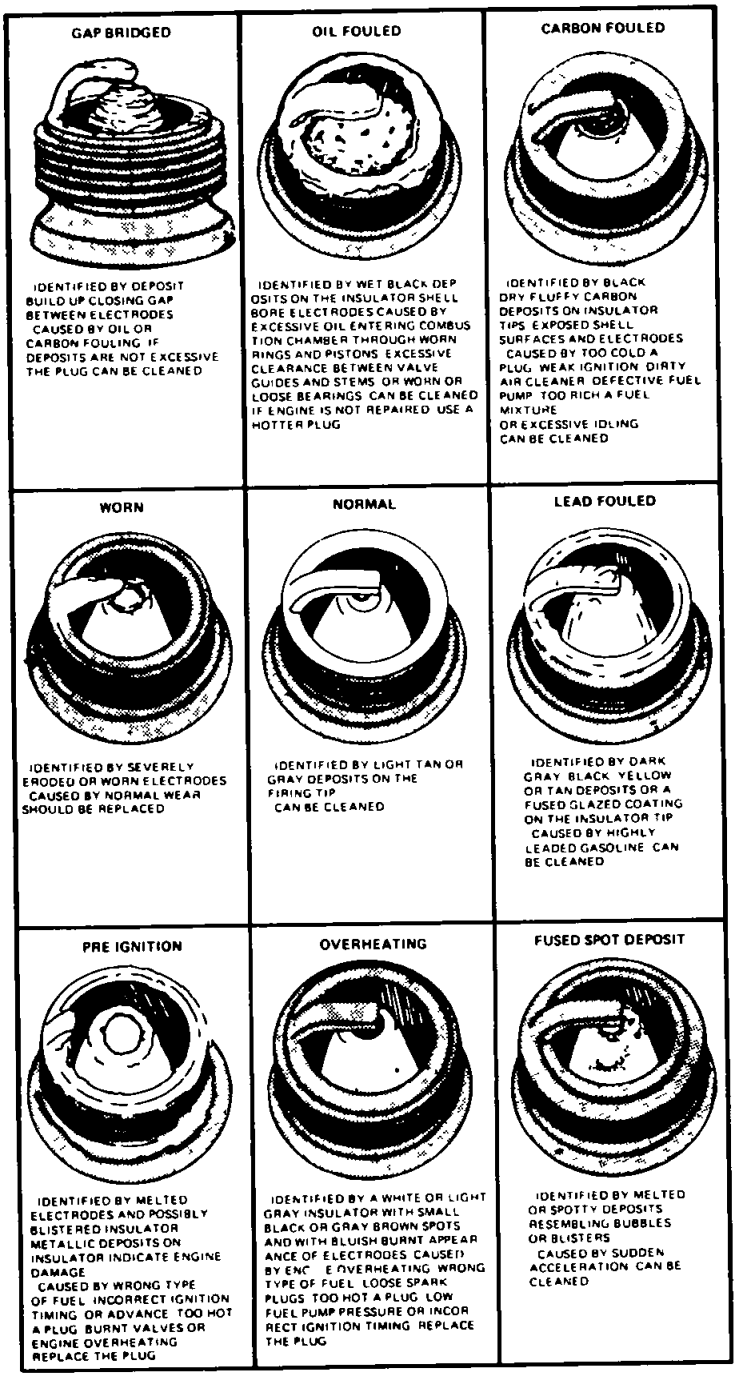

GAP BRIDGED
IDENTIFIED BY DEPOSIT BUILD UP CLOSING GAP BETWEEN ELECTRODES CAUSED BY OIL OR CARBON FOULING IF DEPOSITS ARE NOT EXCESSIVE THE PLUG CAN BE CLEANED
OIL FOULED
IDENTIFIED BY WET BLACK DEPOSITS ON THE INSULATOR SHELL BORE ELECTRODES CAUSED BY EXCESSIVE OIL ENTERING COMBUSTION CHAMBER THROUGH WORN RINGS AND PISTONS EXCESSIVE CLEARANCE BETWEEN VALVE GUIDES AND STEMS OR WORN OR LOOSE BEARINGS CAN BE CLEANED IF ENGINE IS NOT REPAIRED USE A HOTTER PLUG
CARBON FOULED
IDENTIFIED BY BLACK DRY FLUFFY CARBON DEPOSITS ON INSULATOR TIPS EXPOSED SHELL SURFACES AND ELECTRODES CAUSED BY TOO COLD A PLUG WEAK IGNITION DIRTY AIR CLEANER DEFECTIVE FUEL PUMP TOO RICH A FUEL MIXTURE OR EXCESSIVE IDLING CAN BE CLEANED
WORN
IDENTIFIED BY SEVERELY ERODED OR WORN ELECTRODES CAUSED BY NORMAL WEAR SHOULD BE REPLACED
NORMAL
IDENTIFIED BY LIGHT TAN OR GRAY DEPOSITS ON THE FIRING TIP CAN BE CLEANED
LEAD FOULED
IDENTIFIED BY DARK GRAY BLACK YELLOW OR TAN DEPOSITS OR A FUSED GLAZED COATING ON THE INSULATOR TIP CAUSED BY HIGHLY LEADED GASOLINE CAN BE CLEANED
PRE IGNITION
IDENTIFIED BY MELTED ELECTRODES AND POSSIBLY BLISTERED INSULATOR METALLIC DEPOSITS ON INSULATOR INDICATE ENGINE DAMAGE CAUSED BY WRONG TYPE OF FUEL INCORRECT IGNITION TIMING OR ADVANCE TOO HOT A PLUG BURNT VALVES OR ENGINE OVERHEATING REPLACE THE PLUG
OVERHEATING
IDENTIFIED BY A WHITE OR LIGHT GRAY INSULATOR WITH SMALL BLACK OR GRAY BROWN SPOTS AND WITH BLUISH BURNT APPEARANCE OF ELECTRODES CAUSED BY ENGINE OVERHEATING WRONG TYPE OF FUEL LOOSE SPARK PLUGS TOO HOT A PLUG LOW FUEL PUMP PRESSURE OR INCORRECT IGNITION TIMING REPLACE THE PLUG
FUSED SPOT DEPOSIT
IDENTIFIED BY MELTED OR SPOTTY DEPOSITS RESEMBLING BUBBLES OR BLISTERS CAUSED BY SUDDEN ACCELERATION CAN BE CLEANED

Fig 25 Spark plug condition chart

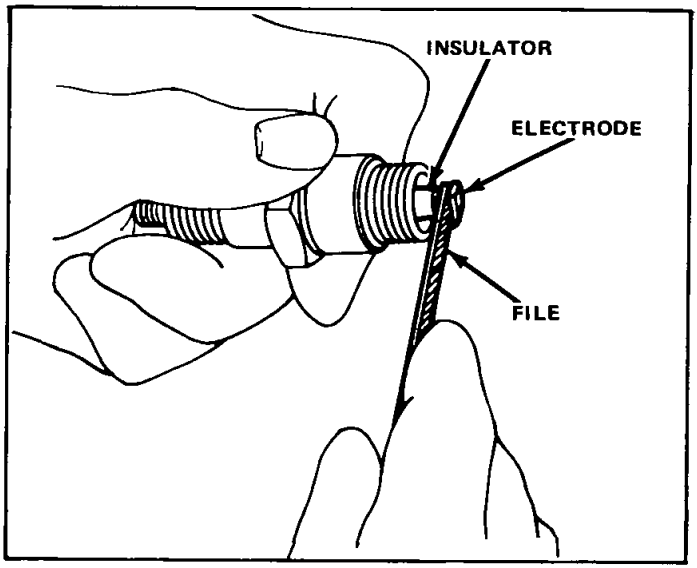


Fig 26 Filing spark plug electrode

engine oil or engine oil into the coolant This could lead to serious internal engine damage

SPARK PLUG SERVICE

Spark plugs should normally be replaced at the intervals listed in the maintenance charts in the front of this book, earlier if fouling, cracking, etc is noticed Spark plug service normally takes less than an hour

Before removing any spark plug, label each of the wires leading to the plugs in some way that will enable you to get the wires back on the correct plugs You might tag them with numbers as 1, 2, 3, 4 from front to rear You might also choose to remove only one spark plug at a time, thereby having only one wire disconnected at a time and minimizing the chance of error

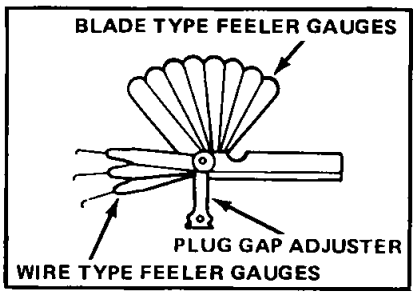


Fig 27 Typical feeler gauges

Use a system that you are comfortable with to get the wires back in their correct positions Proceed as follows

1 After tagging the wires, remove them carefully from the spark plugs Do not pull on the wires Grasp the rubber boot down at the spark plug and *twist it* to free it from the plug
2 Loosen the spark plug one-quarter turn using a spark plug socket, extension and ratchet

3 Crank the engine over a few turns to blow dirt away from the base of the plug
4 Stop cranking and remove the plugs
5 Check the condition of the old spark plugs by comparing them to the chart, Fig 25
6 If the old spark plugs are to be reused, file the electrodes square with an ignition file, Fig 26 Be sure all deposits are cleaned from inside the shell and inspect them to make sure the porcelain is clean and not cracked Replace any spark plug that has been dropped or has a cracked porcelain Check the gap (air space) between the two electrodes at the bottom of the threaded end, using a feeler gauge, Fig 27 Adjust the gap by bending the side electrode (Fig 28) to the dimension shown in the Tune-Up Specification chart at the end of this chapter
7 If new spark plugs are being installed, it is a good practice to also check the gaps as they are not always correct
8 Screw the spark plugs back into the holes To properly thread the spark plugs, use your fingers first to screw them in position before you tighten them with the socket wrench Replace the spark plug wires according to the tags previously placed on the wires
9 Start the engine to make sure it is running properly A shaking or rough running engine might mean that the wires are not pushed onto the spark plugs tightly enough

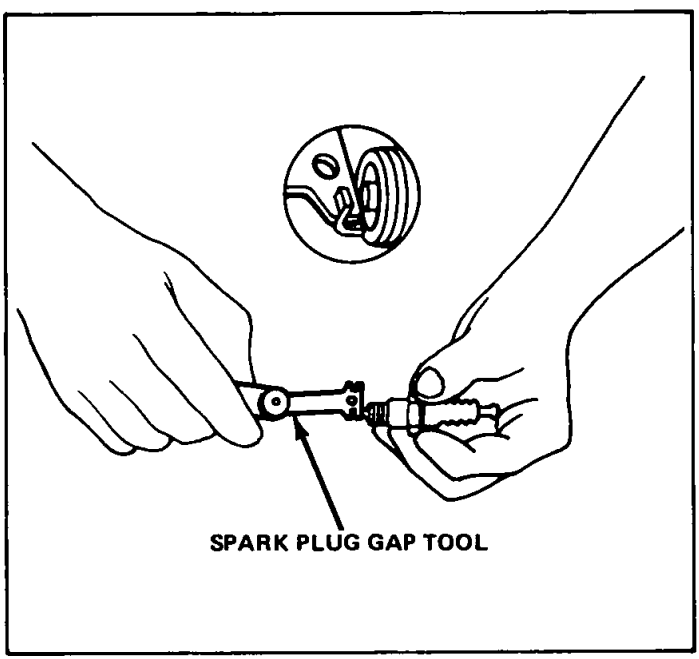


Fig 28 Adjusting spark plug gap

SPARK PLUG WIRES

These wires and end connectors should be inspected at regular intervals to determine if they are oil soaked, cracked or burned If they are in need of replacement, new wires can be purchased at most automotive counters in large department stores Try to obtain wires that are exact replacements for your car Such sets will have the wires cut to correct lengths and contain the terminals on both ends of the wires

Universal sets, which are more readily available, will only have the spark plug boot end attached to the wire You will then have to cut the wire to proper length and attach the terminal and boot on the other end which goes into the distributor cap Figure 2-3 hours for a relaxed, quality job To replace wires on universal sets proceed as follows

1 Remove the longest wire first This will usually be the wire leading to the spark plug farthest away from the distributor

2 Match this wire to the longest wire of the new set and cut it to length, if universal set is being used

3 Slip the boot on the unfinished end and then affix the terminal

4 Replace this new wire to the spark plug in the same routing as the old wire and push it firmly into the cap Then slip the boot tightly over the distributor cap tower

5 Continue replacing the rest of the wires in this fashion

DISTRIBUTOR SERVICE

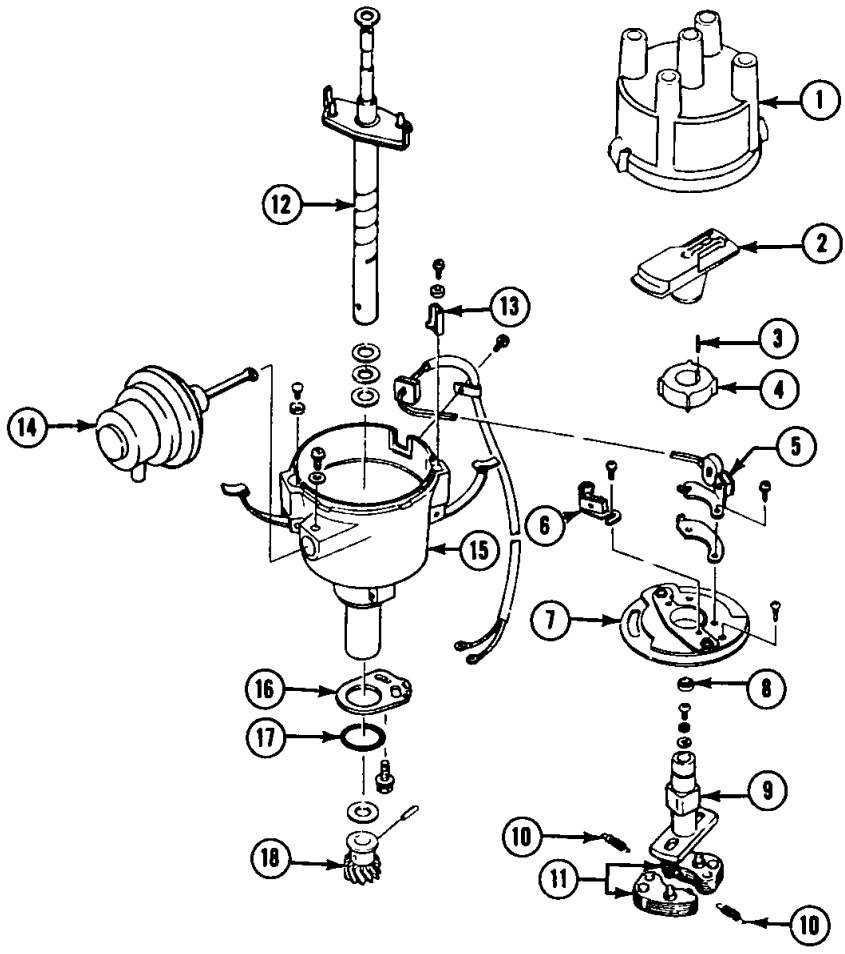
Beginning with some 1976 models, a high-energy electronic ignition system was introduced in Datsun cars This system replaced the familiar breaker points with a reluctor and pick up unit, and consequently, much service has been eliminated Other Datsuns are equipped with the conventional breaker points ignition systems that require service about every 16,000 to 19,000 km (10,000 to 12,000 miles)

ELECTRONIC IGNITION SERVICE

If your Datsun is equipped with an electronic ignition system, maintenance is reduced to a few simple, periodic checks Check for cracks and metal deposits on the electrodes on the inside of the distributor cap Check the end of the rotor for pitting and corrosion Never remove any spark plug wire, as the higher voltage produced by an electronic ignition system can produce a severe shock Replace the distributor cap and rotor in the same manner as those on traditional ignition systems, Fig 29

BREAKER POINT SYSTEMS

Breaker points can be expected to deliver good service if they are attended to as scheduled Breaker points and condensers should be replaced together to avoid the possibility that a poor condenser may quickly burn up a new set of



1 CAP ASSEMBLY
2 ROTOR HEAD ASSEMBLY
3 ROLL PIN
4 RELUCTOR
5 PICK-UP COIL
6 CONTACTOR
7 BREAKER PLATE ASSEMBLY
8 PACKING
9 ROTOR SHAFT
10 GOVERNOR SPRING
11 GOVERNOR WEIGHT
12 SHAFT ASSEMBLY
13 CAP SETTER
14 VACUUM CONTROLLER
15 HOUSING
16 FIXING PLATE
17 O-RING
18 PINION

Fig 29 Typical distributor with electronic ignition

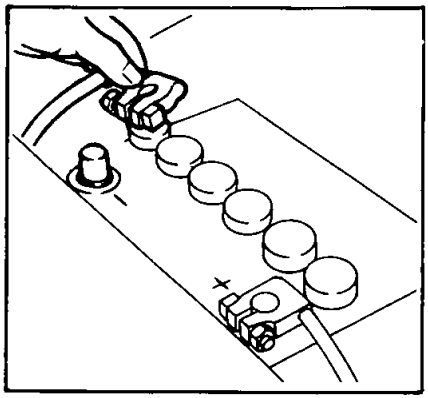


Fig 30 Disconnecting battery ground

points Here's how you service these units

1 Disconnect the battery ground cable (negative) to avoid the possibility of accidental shorts, Fig 30
2 Unfasten the distributor cap from the distributor The cap is secured with bale clips which can be snapped open with a screwdriver, Fig 31
3 Unfasten the old points and condenser Refer to Fig 32 for location of various parts Be careful not to drop any screws or other hardware, you will need them to install new points
4 Wipe off the distributor shaft with a clean, lint-free cloth and apply a light coating of cam lube to the cam
5 Install a new set of points and condenser
6 Connect the battery ground cable and crank the engine (short spurts) until the rubbing block of the points is resting squarely on the highest point of a distributor cam lobe This opens the points wide
7 Referring to Fig 32, use a clean, flat-bladed feeler gauge of the size listed in the tune-up chart at the end of this section Place it squarely into the gap Adjust the opening to the proper dimension and tighten the adjuster screw, in Fig 33)
8 Reinstall the distributor rotor and cap, Fig 34

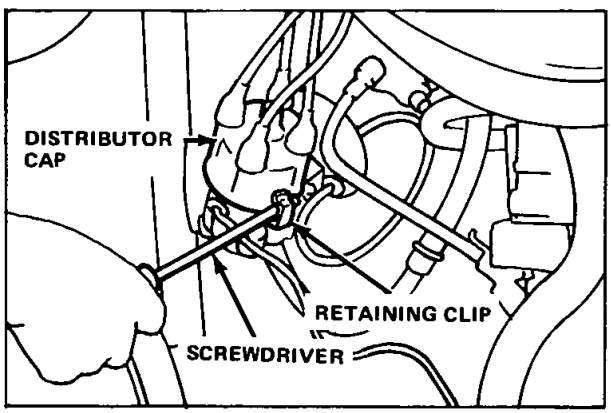


Fig 31 Removing distributor cap

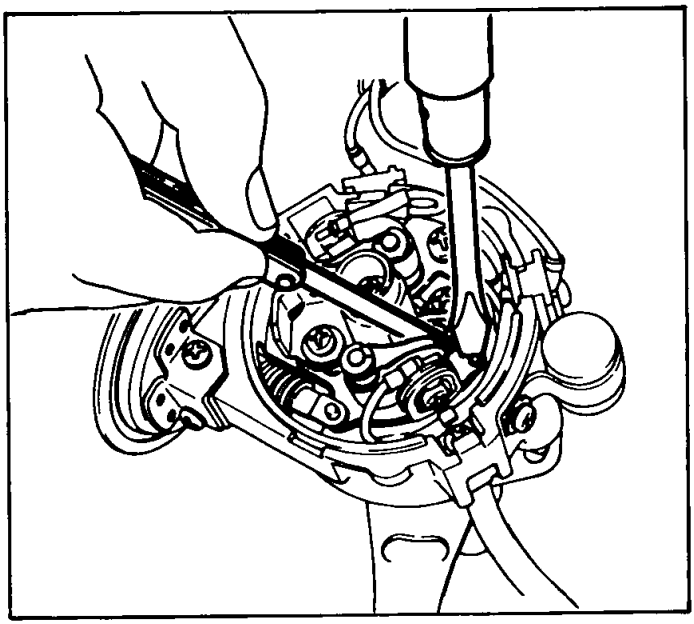


Fig 32 Setting ignition points

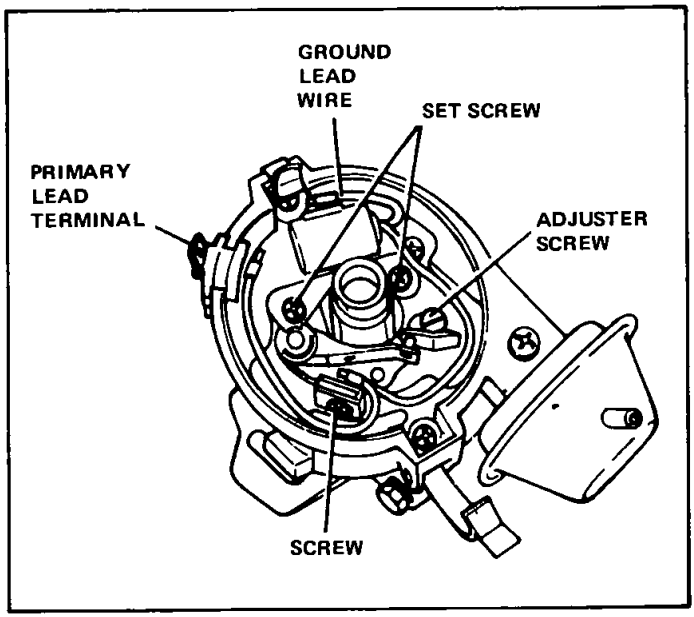


Fig 33 Inside the distributor

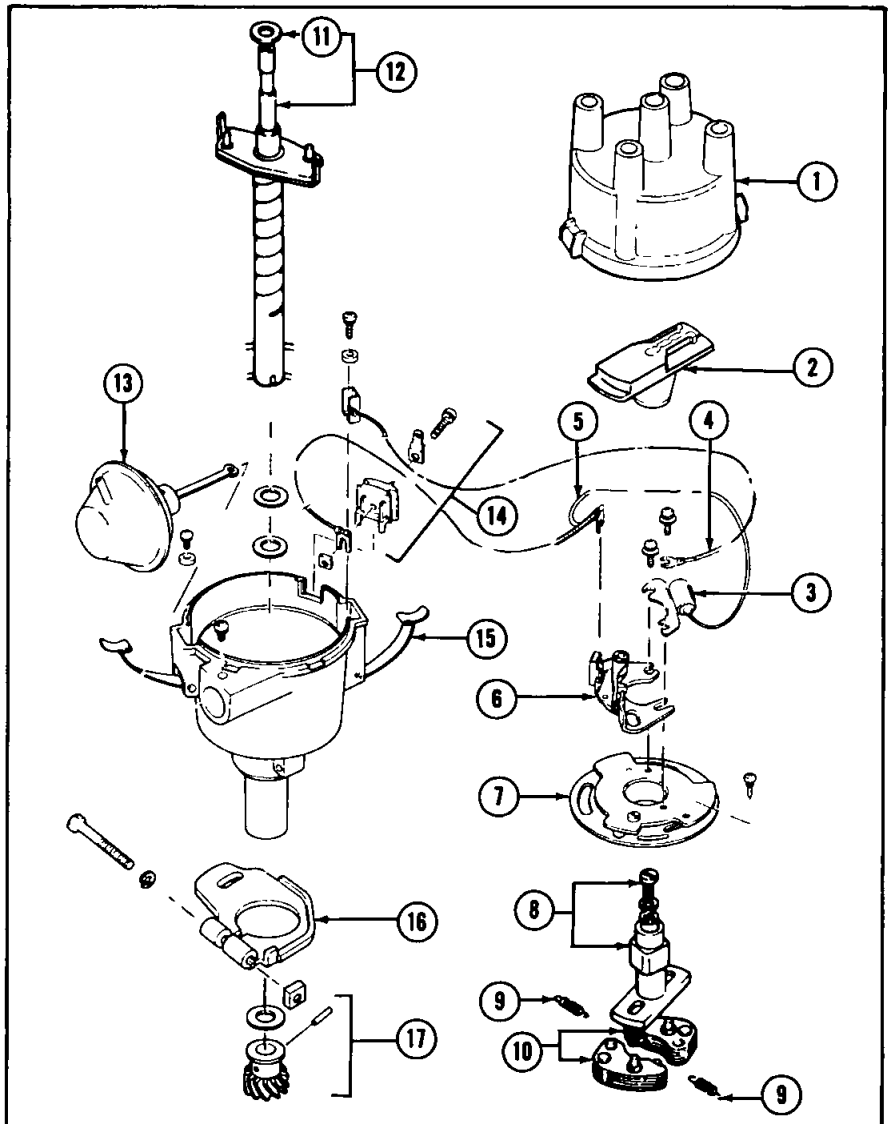


Fig 34 Typical breaker point distributor

DISTRIBUTOR CAP AND ROTOR REPLACEMENT

At tune-up time it is a good idea to check the cap and rotor condition Too often these items are merely taken for granted and assumed to be OK when they may be the cause of an engine miss due to carbon tracking or a worn rotor tip

Carefully examine these parts and if the cap needs replacing get a new rotor at the same time, Fig 35 Replace the cap as follows

1 Unfasten the old cap from the distributor and leave the wires plugged into it
2 Hold the new cap next to the old cap in the same relative position
3 Then carefully remove one wire from the old cap and install it into its same relative hole in the new cap By following this procedure of replacing one wire at a time, there is little possibility for error in getting the wires into the wrong cap holes
4 When completed, pull the old rotor off the distributor shaft and push the new rotor into place
5 Install the new cap on the distributor in the same relative position as the old one occupied

SETTING TIMING

After replacing breaker points and condenser, or simply adjusting the points, you should check the engine timing — that is, at what point the engine fires in relation to the position of the piston There are several other problems that *could* be timing-related, so use a timing check as part of your diagnosis when they occur They include a loss of engine pep, knocking during acceleration and difficult starting characterized by an uneven cranking action Each of these may also have other causes

To check your timing, you will need two pieces of equipment — a timing light and a combination tachometer/dwell meter These maybe purchased at a local discount, auto supply or hardware store They are reasonably priced and an excellent investment in providing a top running automobile Allow about 2 hours of your time for this job

1 Check the spark plugs and distributor points for condition (if not just installed) Correct any defects before proceeding
2 Thoroughly wipe off dirt and dust from the timing marks on the crank pulley and front cover
3 Start the engine and allow it to run until the thermostat opens (The thermostat is open when you feel warm air from the heater) Stop the engine
4 Install a timing light on No 1 cylinder according to instructions supplied with the instrument No 1 cylinder is the spark plug closest to the front of your car
5 Install the combination tachometer/dwell meter according to instructions supplied with the instrument
6 Check to be certain that all tools and wires are clear of the fan Start the engine

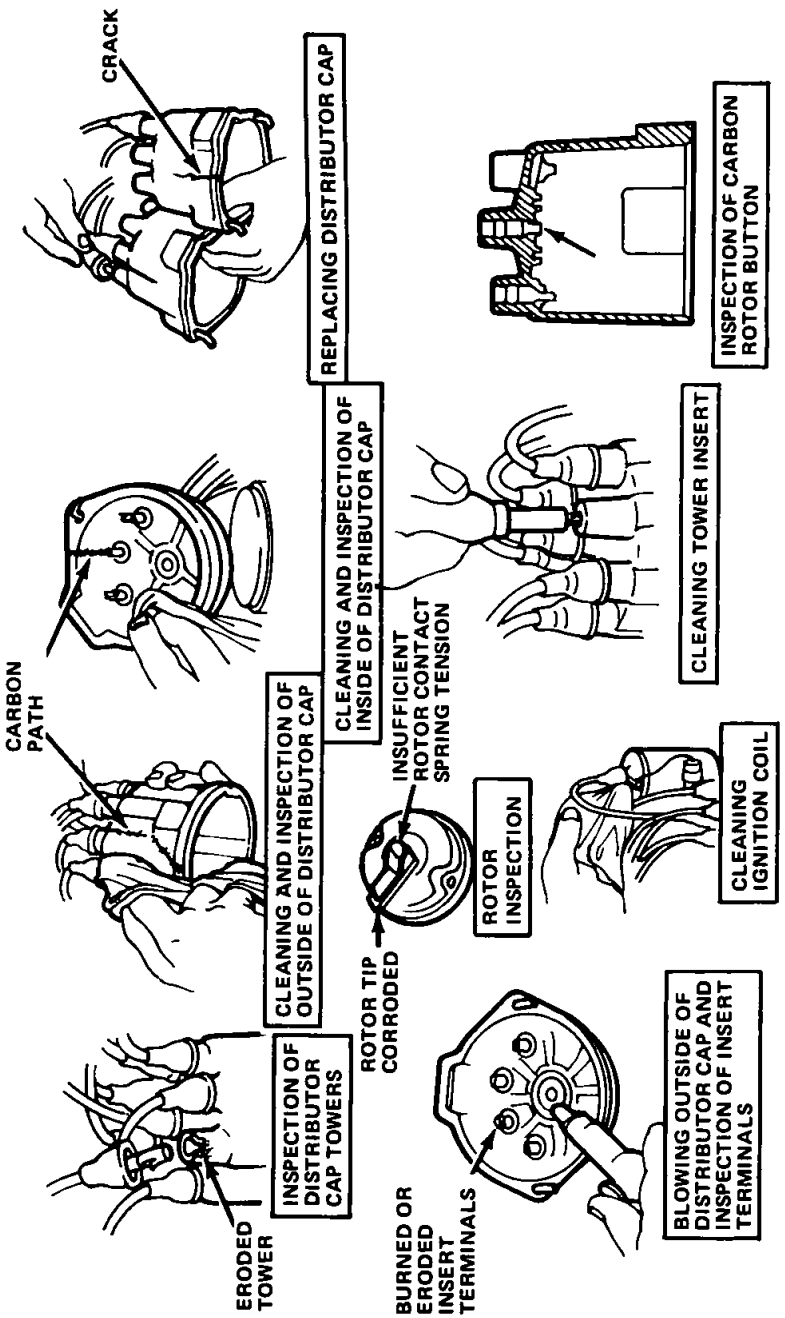

CRACK
REPLACING DISTRIBUTOR CAP
INSPECTION OF CARBON ROTOR BUTTON
CLEANING AND INSPECTION OF INSIDE OF DISTRIBUTOR CAP
CLEANING TOWER INSERT
CARBON PATH
CLEANING AND INSPECTION OF OUTSIDE OF DISTRIBUTOR CAP
INSUFFICIENT ROTOR CONTACT SPRING TENSION
ROTOR TIP CORRODED
ROTOR INSPECTION
CLEANING IGNITION COIL
INSPECTION OF DISTRIBUTOR CAP TOWERS
ERODED TOWER
BURNED OR ERODED INSERT TERMINALS
BLOWING OUTSIDE OF DISTRIBUTOR CAP AND INSPECTION OF INSERT TERMINALS

Fig 35 Cap and rotor inspection

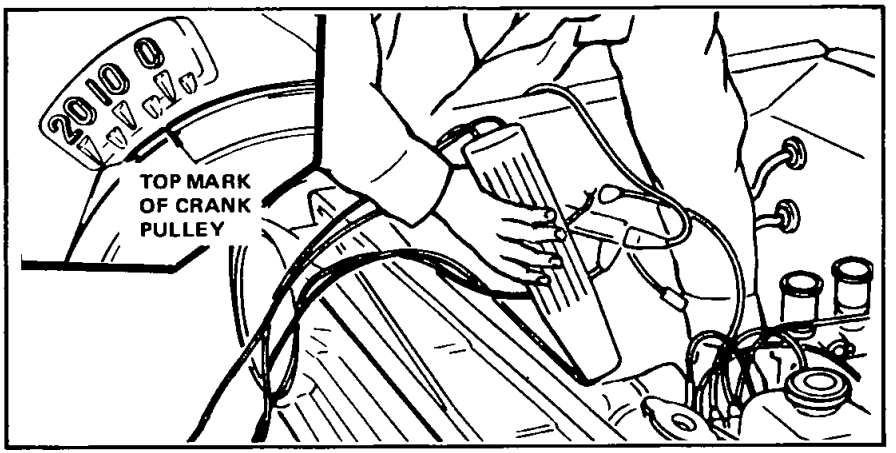


Fig 36 Adjusting timing

7 Adjust the engine idle speed to the specifications in the tune up chart at the end of this section These specifications are determined by the year, model, engine and transmission in your car

8 Point the timing light at the timing marks located on the crank pulley and cover, Fig 36 Check the dwell as indicated on the tachometer/dwell meter If these two readings meet the specifications listed at the end of this section, stop the engine and disconnect the test equipment If not, proceed to the following steps

9 *To adjust the timing,* loosen the holddown bolt and turn the distributor left or right until the correct timing is indicated Then, tighten the holddown bolt, Fig 37

10 *To adjust the point gap* (read as dwell on dwell meter with the engine running) Stop the engine and remove the distributor cap and rotor To decrease the dwell, widen the point gap slightly To increase the dwell, decrease the point gap slightly Reassemble the distributor and test Repeat the procedure until the correct reading is obtained Dwell is the only way to measure point gap while the engine is running, so an inability to get a proper reading indicates a distributor malfunction If this is the case, have the distributor repaired by a qualified mechanic

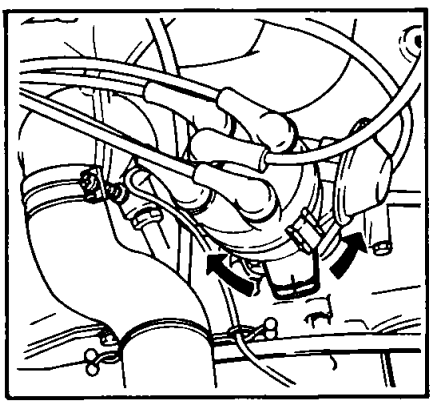


Fig 37 Holddown bolt location

TUNE-UP SPECIFICATIONS

	Year	Hot Idle Speed		Spark Plug			Distributor Gap		Dwell°	Ignition Timing	
		Manual (Neutral)	Automatic (Drive)	Type	Gap					Manual	Automatic
Model B210	1974	800	650	AG-32A	80 mm	032 in	50 mm	020 in	45-55	5° BTDC	5° BTDC
	1975	700	650	AG-32A	80 mm	032 in	50 mm	020 in	49-55	10° BTDC	10° BTDC
	1976	700	650	BP5ES	80- 90 mm	031- 035 in	45- 50 mm	018- 020 in	49-55	10° BTDC	10° BTDC[1]
	1977	700	650	BP5ES-11 [2]	1 00-1 10 mm	039- 043 in	45- 50 mm	018- 020 in	49-55	10° BTDC	8° BTDC
Model 610	1973	800	650	AG-3	75 mm	030 in	50 mm	020 in	49-55	12° BTDC	12° BTDC
	1974	750	650	AG-3	75 mm	030 in	50 mm	020 in	49-55	12° BTDC	12° BTDC
	1975	750	650	AG-22	80 mm	032 in	50 mm	020 in	49-55	12° BTDC	12° BTDC
	1976	750	650	BP6ES [3]	80- 90 mm	031- 033 in	45- 50 mm	018- 020 in	49-55	12° BTDC	12° BTDC
Model 710	1974	800	650	AG-3	75 mm	030 in	50 mm	020 in	49-55	12° BTDC	12° BTDC
	1975	750	650	AG-22	80 mm	032 in	50 mm	020 in	49-55	12° BTDC	12° BTDC
	1976	750	650	BP6ES [2]	80- 90 mm	031- 035 in	45- 50 mm	018- 020 in	49-55	12° BTDC	12° BTDC
	1977	600	600	BP6ES-11	1 00-1 10 mm	039- 043 in	45- 50 mm	018- 020 in	49-55	12° BTDC	12° BTDC

[1] 8° BTDC on California vehicles with automatic transmissions

[2] Use spark plug BP5EQ-13 on MPG models

[3] California models uses spark plug BP6ES-11

Fuel System

A carburetor has two enemies dirt and water Clogged air and fuel filters may allow dirt and water to get into the carburetor, causing it to malfunction Some of the symptoms of a malfunctioning carburetor are hard starting, surging or missing at high or low speeds, and poor gas mileage In any event, the carburetor requires attention to cure the problem

In this section you will find instructions on how to make the various adjustments on your carburetor But before you make any adjustments, make a quick visual inspection under the hood It may save you lots of time and money First of all, make sure all hoses and vacuum lines are in good condition and properly attached Make sure the fuel and air filters are clean and properly installed Check the condition of the carburetor linkage, if it is coated with grease and oil or corroded, spray it with a carburetor degreaser and lubricant and work a few times by hand If you have a minor stalling problem, pour a can of additive carburetor cleaner into the fuel tank Also, it is generally a good idea to check (and correct, if needed) the timing if in doubt

You should be able to replace a carburetor in an hour and a half Of course extra time will be needed for any adjustments To remove, rebuild and install a Datsun carburetor, you'd better figure on your car being tied up around four hours

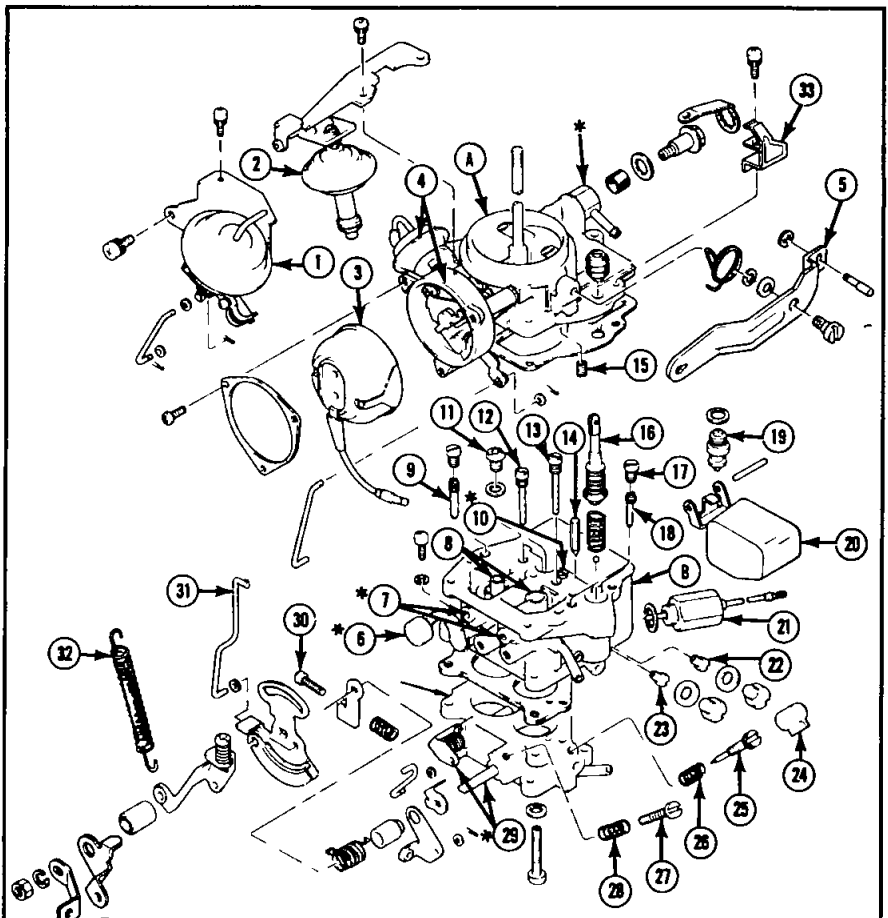
When buying a used carburetor from a salvage yard or a remanufactured one, be sure you are getting one from the same make and year as your car Model B210 carburetors from 1974 to 1977 will fit any B210 of that period, however you may find it difficult to obtain peak performance and mileage as well as meet emission standards Carburetors on all 1973 to 1977 model 610s and 710s are interchangeable, but you may again experience the same tune-up, performance and emission problems So always be sure you have the right carburetor for your car

CARBURETOR DESCRIPTION AND IDENTIFICATION

All *1974-77 Datsun B210s* are equipped with a model DCH306 carburetor Variations of this carburetor, such as for transmissions or California cars, are denoted by a suffix For example, a 1974 B210 equipped with a manual transmission uses a DCH306-6 carburetor, with an automatic it's a DCH306-7 carburetor The model number and suffix are printed on the carburetor body

The DCH306 carburetor is a downdraft type with two venturi It contains a primary system for normal running and a secondary system for full-load running and heavy acceleration The float system that regulates fuel level is common to both the primary and secondary systems A secondary switch-over mechanism, accelerating system, anti-dieseling solenoid valve and power valve mechanism are also used

All *1973-77 Datsun 610s and 710s* are equipped with a model DCH340 carburetor Variations of this carburetor are also denoted by a suffix For example, 1976 California cars equip-



Ⓐ CHOKE CHAMBER
Ⓑ CENTER BODY
Ⓒ THROTTLE CHAMBER
1 SERVO DIAPHRAGM OF THROTTLE OPENER
2 DASH POT
3 AUTOMATIC CHOKE COVER
4*AUTOMATIC CHOKE BODY AND DIAPHRAGM CHAMBER
5 ACCELERATING PUMP LEVER
6*AUXILIARY VALVE
7*VENTURI STOPPER SCREW
8*PRIMARY AND SECONDARY SMALL VENTURI
9 SECONDARY SLOW JET
10*SAFE ORIFICE
11 POWER VALVE
12 SECONDARY MAIN AIR BLEED
13 PRIMARY MAIN AIR BLEED
14 INJECTOR WEIGHT
15 PRIMARY SLOW AIR BLEED
16 ACCELERATING PUMP
17 PLUG
18 PRIMARY SLOW JET
19 NEEDLE VALVE
20 FLOAT
21 ANTI DIESELING SOLENOID VALVE
22 PRIMARY MAIN JET
23 SECONDARY MAIN JET
24 IDLE LIMITER CAP
25 IDLE ADJUST SCREW
26 SPRING
27 THROTTLE ADJUST SCREW
28 SPRING
29*PRIMARY AND SECONDARY THROTTLE VALVE
30 FAST IDLE ADJUST SCREW
31 ACCELERATING PUMP ROD
32 THROTTLE RETURN SPRING
33 STROKE LIMITER

NOTE DO NOT REMOVE THE PARTS MARKED WITH AN ASTERISK "*"

Fig 38 Typical DCH306 carburetor

ped with an automatic transmission are denoted DCH340-41A The model number and suffix are printed on the carburetor body

The DCH340 carburetor is essentially the same as the DCH306 carburetor Figs 38 and 39

CARBURETOR REMOVAL AND INSTALLATION

This procedure is provided to help you remove the carburetor so you can either disassemble it for cleaning or overhaul or replace it with a new or rebuilt unit If you are replacing it, be sure you obtain the replacement unit from a reputable auto parts store and be sure that you fully understand the terms of any warranty that may be provided with the unit

To replace the carburetor, proceed as follows

1 Disconnect the battery ground cable to prevent accidental shorts
2 Remove the air cleaner cap and filter element
3 Remove all hoses, tubes and other attachments from the air cleaner body and label them for easy reassembly
4 Remove the air cleaner body
5 Disconnect the accelerator linkage and mechanical and/or electrical choke connections as necessary

Ⓐ CHOKE CHAMBER
Ⓑ CENTER BODY
Ⓒ THROTTLE CHAMBER
1 LOCK LEVER
2 FILTER SET SCREW
3 FUEL FILTER
4 FUEL NIPPLE
5 NEEDLE VALVE BODY
6 NEEDLE VALVE
7 FUEL CHAMBER PARTS
8 ACCELERATING PUMP PARTS
9 ALTITUDE COMPENSATOR PIPE (CALIFORNIA MODELS)
10*COASTING AIR BLEED ADJUSTING SCREW
11*HIGH SPEED ENRICHER AIR BLEED
12*CHOKE VALVE
13 ACCELERATING PUMP LEVER
14 THROTTLE RETURN SPRING
15 ACCELERATING PUMP ROD
16 AUTOMATIC CHOKE COVER
17*AUTOMATIC CHOKE BODY AND DIAPHRAGM CHAMBER
18*RICHER JET
19*COASTING AIR BLEED I
20 PRIMARY MAIN JET
21 SECONDARY MAIN JET
22 SECONDARY SLOW AIR BLEED
23 SECONDARY SLOW JET
24 PLUG
25*SAFE ORIFICE
26 COASTING JET
27 SECONDARY MAIN AIR BLEED
28 POWER VALVE
29 PRIMARY MAIN AIR BLEED
30 PLUG
31 PRIMARY SLOW JET
32 NO 2 PRIMARY SLOW AIR BLEED
33*PRIMARY AND SECONDARY SMALL VENTURI
34*VENTURI STOPPER SCREW
35 CHOKE CONNECTING ROD
36 ANTI-DIESELING SOLENOID VALVE
37 FAST IDLE CAM
38 DIAPHRAGM CHAMBER PARTS
39 IDLE LIMITER CAP
40 IDLE ADJUST SCREW
41 IDLE ADJUST SCREW SPRING
42 THROTTLE ADJUST SCREW
43 THROTTLE ADJUST SCREW SPRING
44*PRIMARY AND SECONDARY THROTTLE VALVE
45 B C D D (CALIFORNIA MODELS)
46 VACUUM CONTROL SOLENOID VALVE
47 B C D D (NON-CALIFORNIA MODELS)

NOTE DO NOT REMOVE THE PARTS MARKED WITH AN ASTERISK "*"

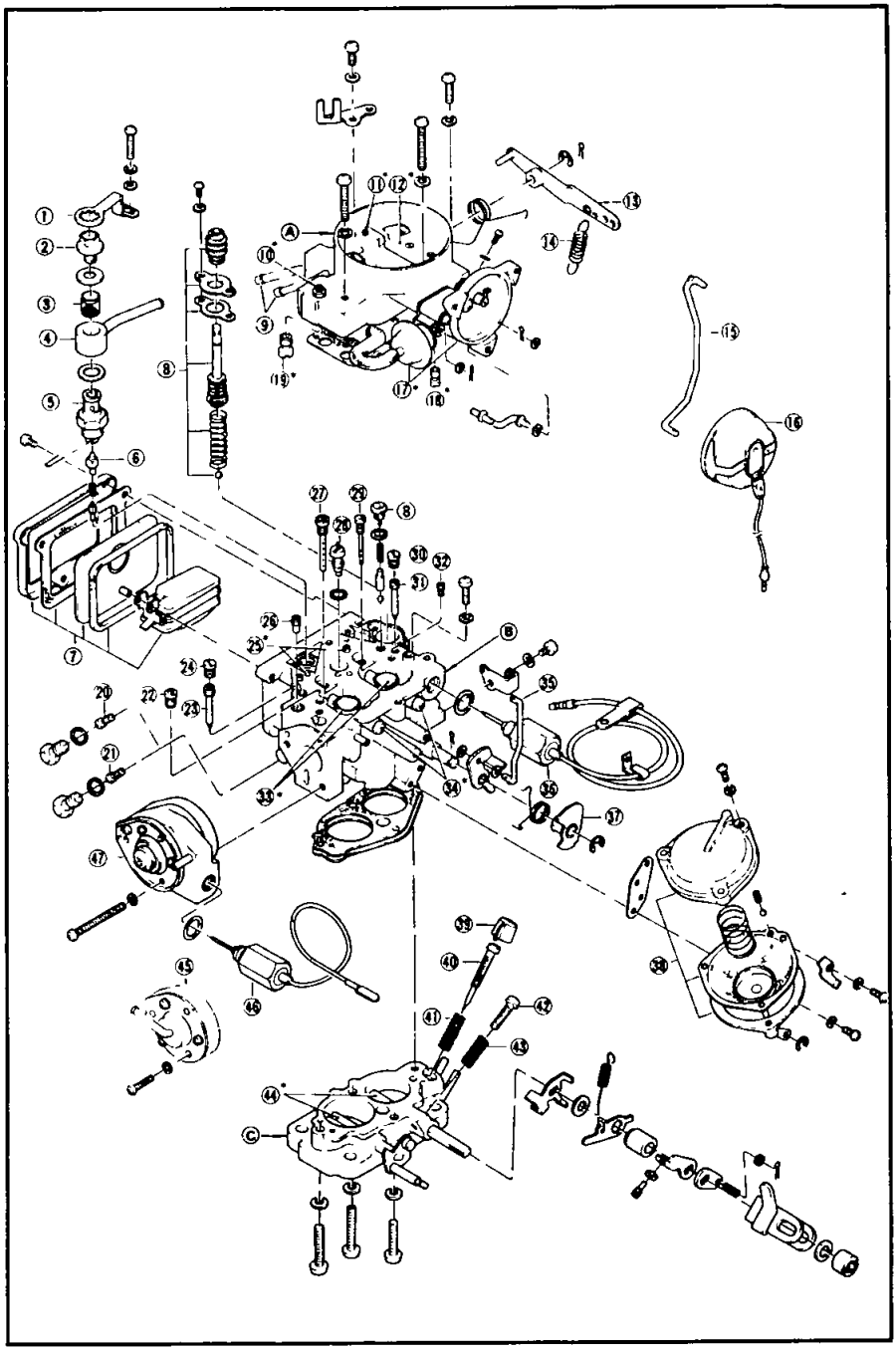


Fig 39 Typical DCH340 carburetor

6 Remove the nuts that hold the carburetor to the intake manifold
7 Before removing the carburetor, disconnect the fuel line Be careful, since raw gas may be spilled Also be careful that no nuts, bolts, tools or anything else falls into the engine intake manifold
8 Remove the carburetor
9 If you are going to disassemble the carburetor, follow the instructions included with the repair kit
10 To re-install the carburetor, reverse the above steps Use a new gasket or insulator between the carburetor and the intake manifold

NOTE: If you are going to store your car for a period of time with the carburetor removed, especially if the hood is also removed, cut a cover out of a heavy piece of cardboard and place on the intake manifold opening Water or any other foreign objects getting into the intake manifold can cause severe problems

CARBURETOR ADJUSTMENTS

Idle Adjustment

There are two basic idle adjustments you can make on your Datsun carburetor First is *idle speed,* which is essentially fine-tuning the throttle The second is *idle mixture* This regulates the amount of gasoline that enters the air in the venturi (rich or lean) How well these two adjustments are made contributes greatly to the fuel economy and performance of your car You can make either adjustment alone, but its best to make these adjustments together Allow about 1-1/2 hours of your time to make idle adjustments To adjust, proceed as follows

1 Before making any adjustments, check and adjust the timing as outlined earlier in this book
2 Remove the air hose between the 3-way connector and air check valve, if equipped, Fig 40 Plug

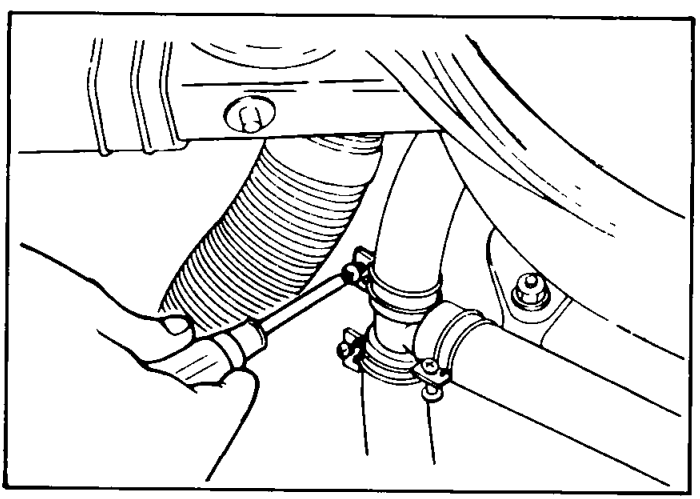


Fig 40 Disconnect air hose from air check valve

the air hose to prevent dust from entering (You can use either a golf tee or a piece of plastic held in place with a rubber band)

3 Check the carburetor for proper connection of hoses and pipes Correct if necessary

4 Start the engine and let it idle until warmed up

5 Stop the engine and attach a tachometer per the manufacturer's instructions Start the engine, make sure transmission is in neutral or park and accelerate engine to 1,500-2,000 rpm two or three times Then let the engine idle for about a minute

6 *Adjust idle speed* by turning idle speed screw until the engine idle is at recommended speed listed in the Tune-up Specifications chart For idle speed screw location on B210 models, see Fig 41 For models 610 and 710, see Fig 42

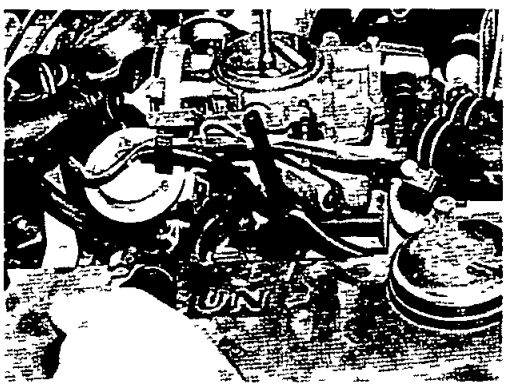


Fig 41 Idle speed screw – Model B210

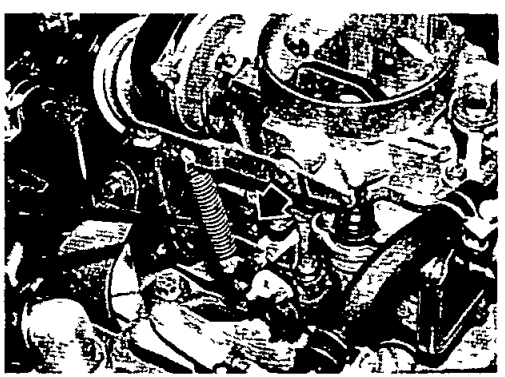


Fig 42 Idle speed screw – Models 610 and 710

7 *Adjust idle mixture* by turning the idle mixture screw clockwise until you get a noticeable (about 100 rpm) drop in idle speed See Fig 43 for the idle mixture screw location on B210 models and Fig 44 for 610 and 710 models
8 Turn the idle mixture screw counterclockwise until the smoothest running condition is reached Then, turn the screw back 1/4 turn

NOTE: Some idle mixture screws have a plastic limiter cap attached You can remove the cap by prying behind it with a screwdriver Be sure to pry on the cap and not the mixture screw itself

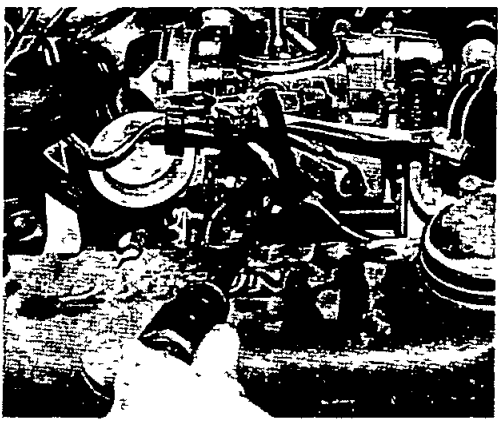


Fig 43 Idle mixture screw – Model B210

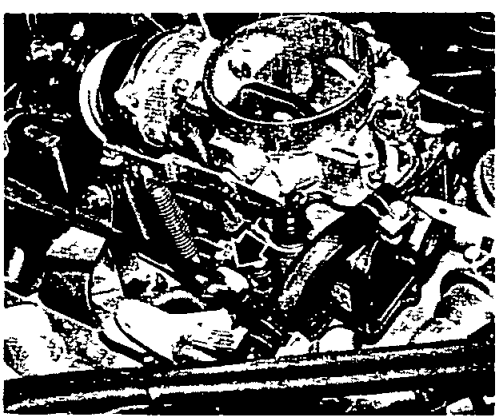


Fig 44 Idle mixture screw – Models 610 and 710

9 Check the engine idle speed again to be sure engine is idling to specification Adjust idle speed screw if necessary

10 Connect the air hose to the 3-way connector Remove the tachometer

Float Level Check and Adjustment

The float regulates the amount of gasoline allowed in the carburetor, and proper float level adjustment is essential for proper carburetor operation On your Datsun, it is especially easy to check your carburetor float level Just look through the inspection window, Fig 45 At a smooth idle, the top of the float should be even with the line on the glass If it is not, adjustment is needed

Proceed as follows

1 Remove the air cleaner cap, filter element and air cleaner body to provide access to the float chamber

2 Disconnect the fuel line and drain gasoline from the float chamber Take necessary precautions because of the raw gasoline that may spill onto the engine

3 Remove the attaching screws from the float chamber inspection window retainer

4 Carefully remove window and retainer assembly, taking care not to damage the gaskets If the assembly is difficult to remove, pry gently with a small screwdriver against outer metal retainer If this does not work, tap back of screwdriver along the gasket edges

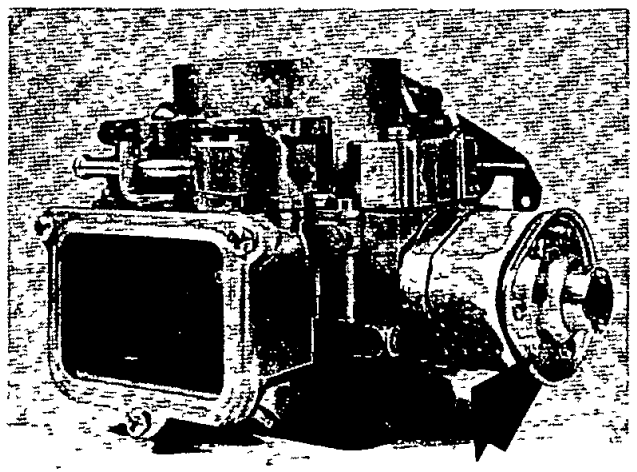


Fig 45 Float level indicator

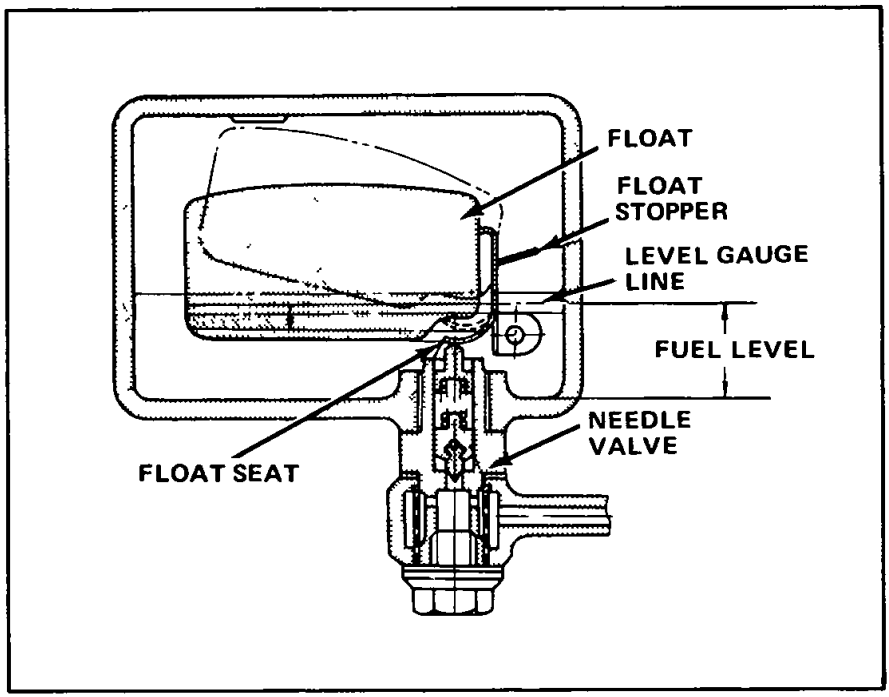


Fig 46 Float level adjustment

5 Adjust the float position by bending the float seat until the upper part of the float level is lined up with the line on the window assembly, Fig 46 You can check this by loosely repositioning window assembly and checking float alignment

6 After float is properly aligned, replace window assembly and gaskets, tightening the screws securely Replace the fuel lines and air cleaner assembly

7 With the car idling, check the float position in the inspection window

Fast Idle Clearance

The choke valve at full closed position automatically opens the throttle at the correct angle for starting the engine Fast idle is adjusted using the fast idle screw on cars with manual transmissions, Fig 47 On cars with automatic transmissions, adjustment is made by a dash pot (covered later in this section)

Here's how to adjust fast idle

1 With the carburetor removed from the engine, measure throttle clearance with a wire gauge, placing the upper side of the fast idling screw

on the second step of the fast idling cam, Fig 47 Clearance for cars with manual transmission 0 80-0 88 mm (0 030-0 035 in) Clearance for cars with automatic transmission 1 07-1 17 mm (0 040-0 045 in)

2 Install the carburetor on the engine

3 Start the engine and measure fast idle speed with a tachometer It should be to the speed specified in the Tune-Up Specifications chart for your car

4 Adjust idle by turning fast idle screw until engine is at normal idle speed

Allow about 1-1/2 hours for this job Try to schedule it when you are going to have the carburetor off for other repairs

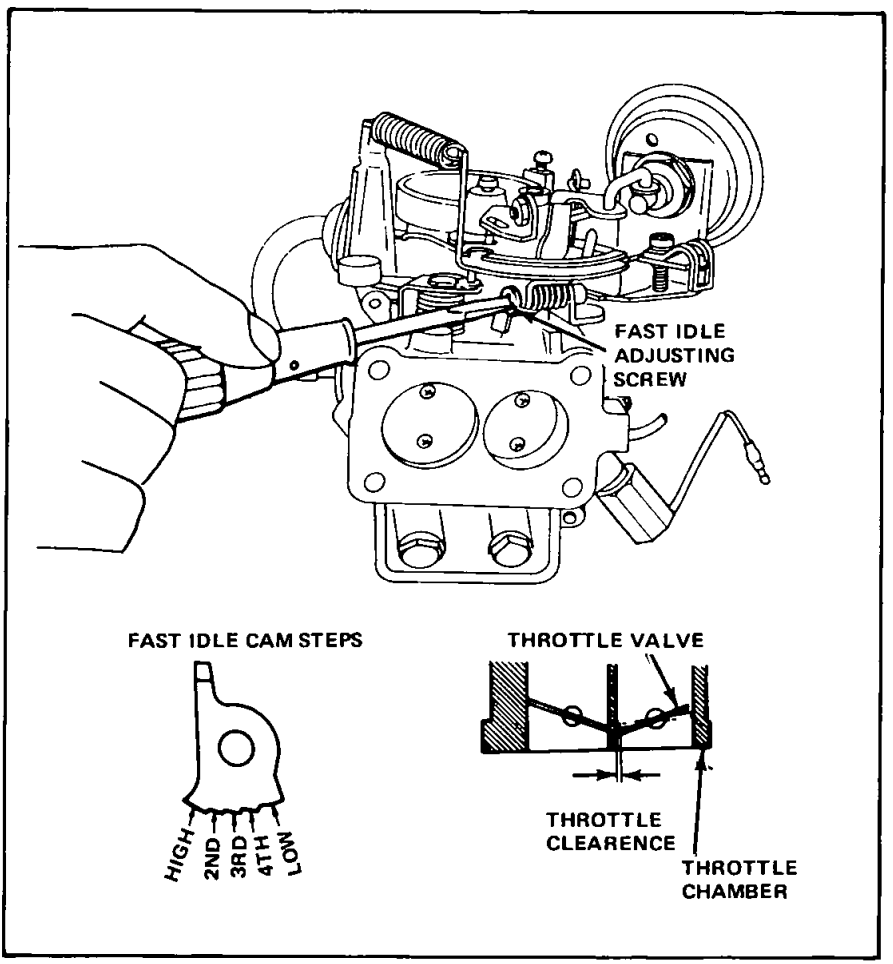


Fig 47 Fast idle clearance adjustment

Choke Cover Adjustment

To adjust the choke cover setting, simply *loosen* — do not remove — the three screws that attach the choke cover retainer ring to the carburetor choke housing Turn the cover until the index mark lines up as indicated in Fig 48 Tighten the retaining ring attaching screws

Choke Vacuum Adjustment

When a cold engine is started, a vacuum diaphragm called a "vacuum break" opens the choke plate slightly to prevent loading the engine with an over-rich mixture To adjust vacuum break, proceed as follows

1 Remove the three attaching screws, gasket and choke cover

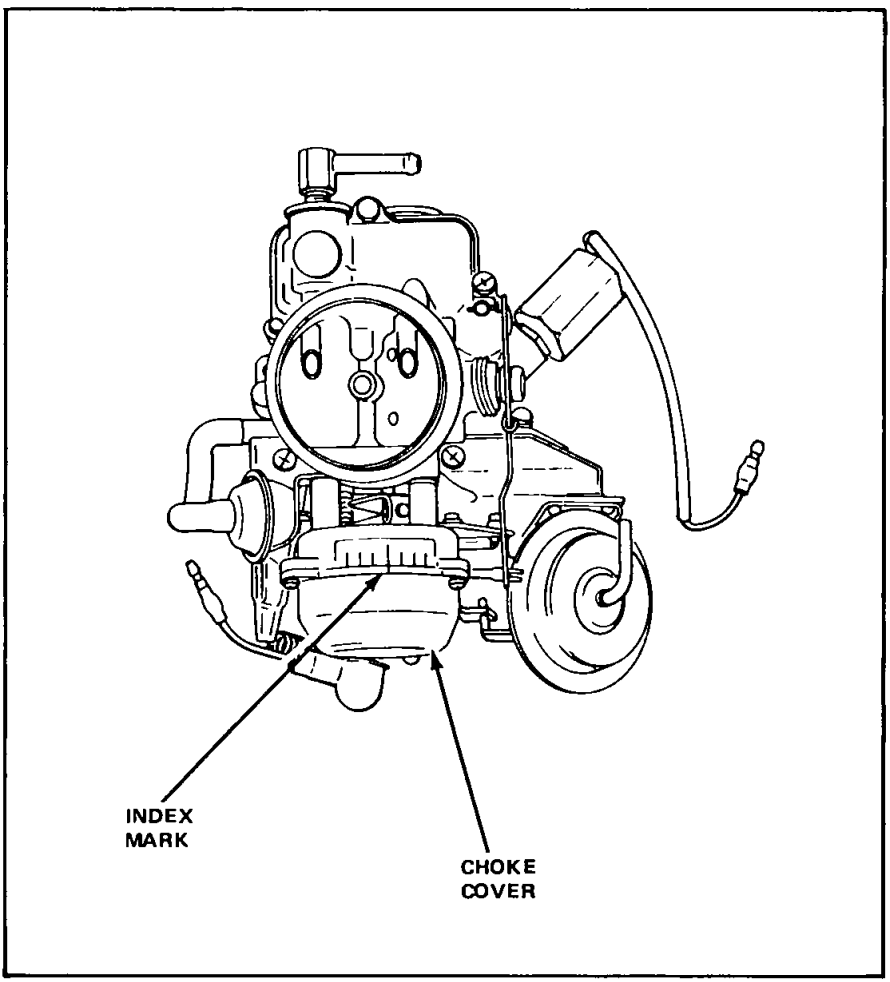


Fig 48 Typical choke cover adjustment

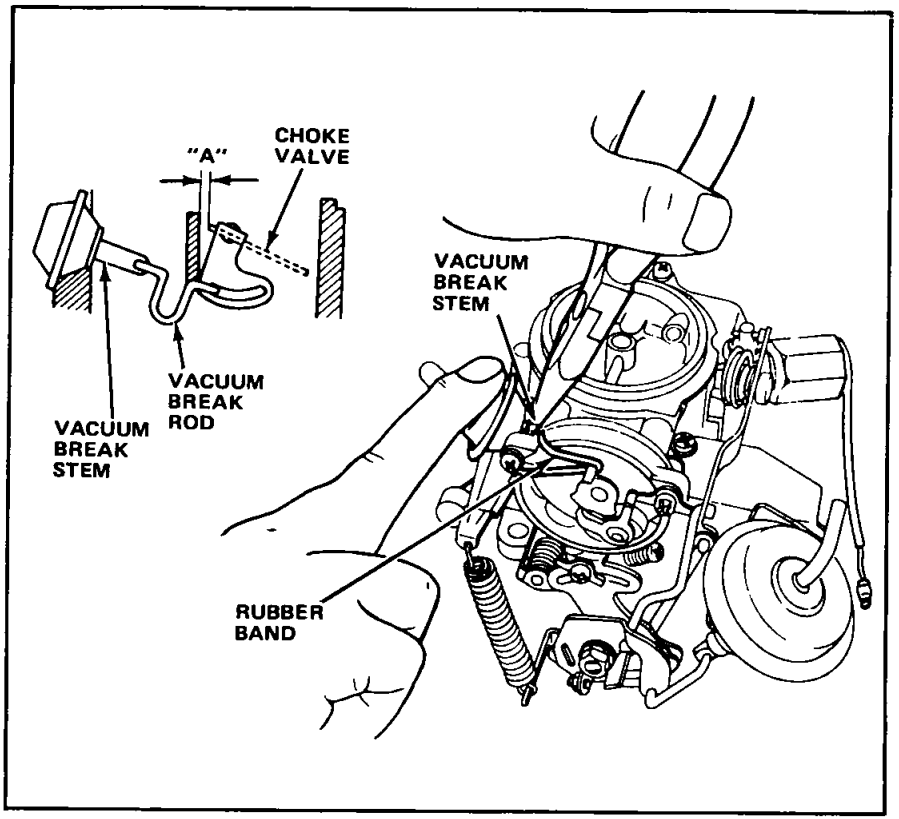


Fig 49 Choke vacuum adjustment

and set aside Use a magnetic-tipped screwdriver if you have one — you will be less likely to drop one of these little screws

2 Completely close the choke valve
3 Hold the choke valve by stretching a rubber band between the choke shaft lever and the stationary part of the carburetor, Fig 49
4 Grip the vacuum break stem with pliers and pull straight
5 Adjust gap "A" Fig 49 by bending the vacuum break rod Clearance for cars with manual transmission 1 140-1 260 mm (0 045-0 050 in) Clearance for cars with automatic transmission 1 205-1 335 mm (0 047-0 053 in)

It should take you about 45 minutes to adjust choke vacuum

Choke Unloader Adjustment

The carburetor is equipped with an "unloader" that will open the choke plate when the throttle is fully open This allows ventilation of engines that have become flooded due to over-choking To adjust unloader, proceed as follows

1 With the choke cover removed, close choke valve
2 Hold the choke valve by stretching a rubber band between the choke shaft and a stationary part of the carburetor, Fig 50
3 Rotate the throttle lever until it is fully open
4 Adjust clearance "A" Fig 50 by bending unloader tongue Clearance for cars with manual or automatic transmissions 2 03 mm (0 080 in)

NOTE: Be sure that throttle valve can open fully If throttle valve fails to open fully, unloader will not operate

Allow about one hour for this task

Interlock Opening Adjustment

1 To adjust the interlock opening of primary and secondary throttle valves, open the primary side

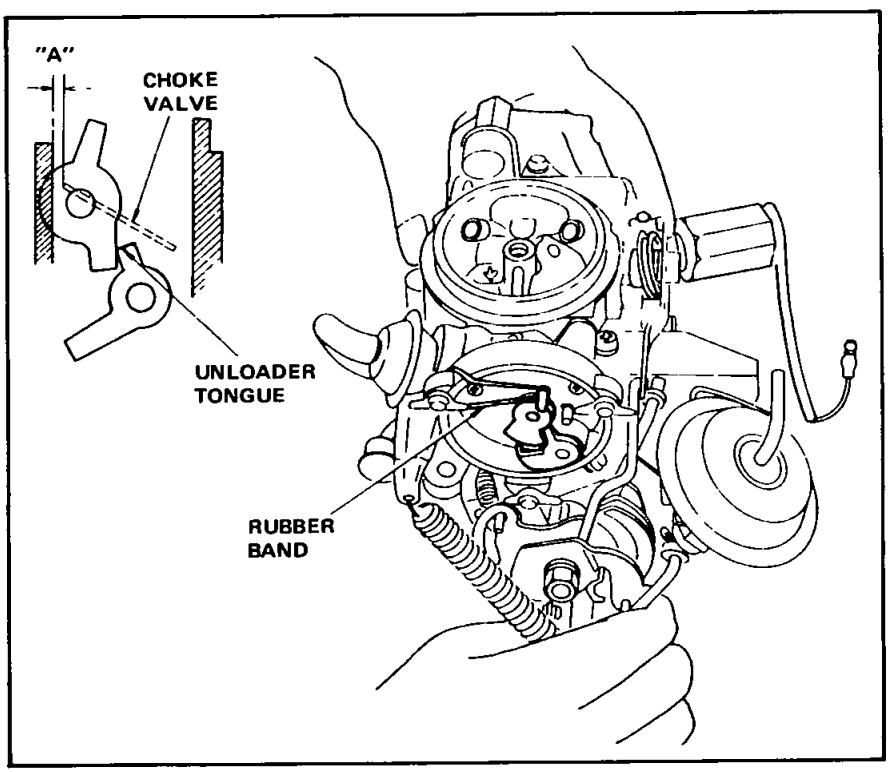


Fig 50 Choke unloader adjustment

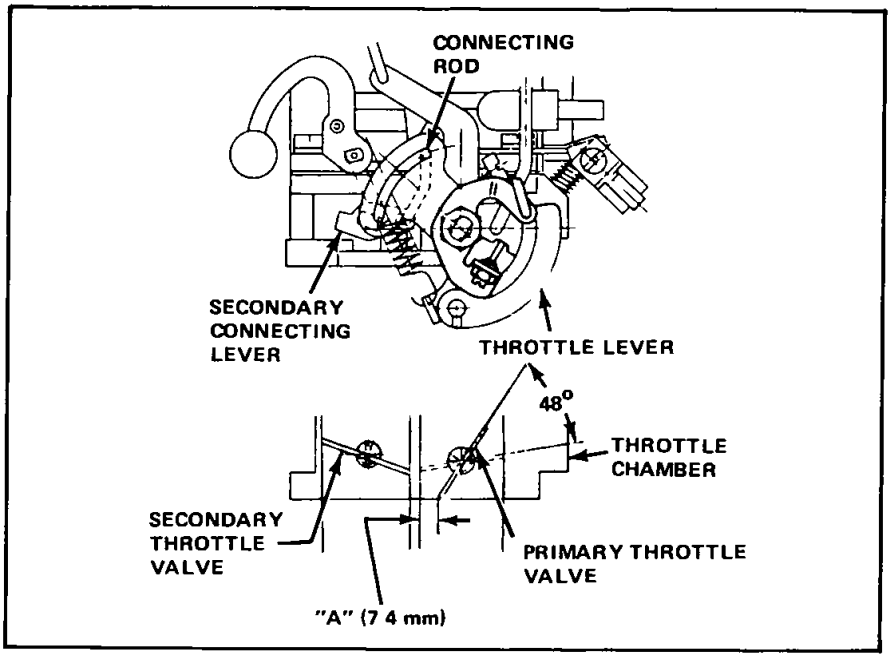


Fig 51 Interlock opening adjustment

throttle valve 48° from fully closed position and measure "A" between the throttle valve and the throttle chamber inside wall, Fig 51

2 Without disturbing the setting, bend the connecting rod as necessary so that the secondary throttle valve is about to open Check to make sure the linkage system works smoothly

It will only take about 15 minutes to do this job

Dash Pot Adjustment

(Automatic Transmission Models Only)

1 Make sure the idle mixture and idle speed are adjusted correctly

2 Start the engine and let it idle until warmed up (Top radiator hose is warm)

3 Attach a tachometer according to the manufacturer's instructions and loosen the dash pot locknut, Fig 52

4 Turn the throttle valve by hand until the dash pot just reaches the stopper lever

5 Adjust the position of the dash pot by turning the adjusting nut until engine speed is between 1,500 to 2,000 rpm with the dash pot just touching the stopper lever

6 Tighten the locknut

7 Briefly accelerate the engine, and let it slow down to idle speed This should take about three seconds If not, repeat steps 4, 5 and 6 until the

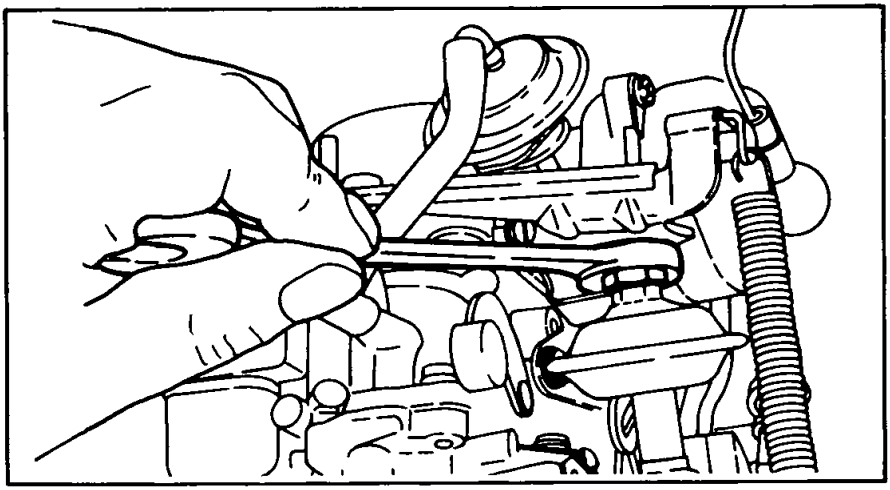


Fig 52 Dash pot adjustment

engine decelerates to idle speed in about three seconds

8 Stop the engine and remove the tachometer

BASIC CARBURETOR DISASSEMBLY

It is best to replace any gaskets in the carburetor whenever you disassemble it For this reason you should obtain a carburetor rebuild kit for the model you have Many kits have instructions, illustrations and gauges along with new gaskets and needle and seat assembly Check before you buy to be sure it fits your needs

Look at each component before taking the carburetor apart to help during assembly Remove parts in sections and store them in a cupcake tin or similar tray Use screwdrivers that exactly fit screw heads and jets to avoid slipping or raising burrs Remove all parts except choke and throttle valves and shafts Remove all gaskets, diaphragms and O-rings before immersing in carburetor cleaner Replace all old gaskets as well as the float needle and seat

The following procedure is a guide in case you do not have instructions from a rebuild kit Your carburetor may not disassemble precisely as described, so work systematically and take notes to help you during reassembly

Refer to Figs 38 and 39 These illustrations show the carburetors that are typical of ones used in Datsun models B210, 610 and 710 Your carburetor may differ in details, but these illustrations provide an excellent guide

1 Examine the carburetor parts before disassembly to help you during assembly
2 Disconnect the choke and accelerator pump linkage from the carburetor cover
3 Remove the air horn on the cover and carefully remove the float pin,

float and needle and seat assembly

4 Tip the carburetor main body and catch the accelerator pump ball and weight Many will have four parts in order of removal gasket, plug, weight, ball
5 Remove the choke cover and choke housing parts Do not remove choke valve unless necessary for replacement
6 Remove the accelerator pump plunger and power piston from cover
7 Remove the window assembly, venturis, jets and other main body parts Be sure to use the proper size tool for removing jets
8 Remove the diaphragm assembly, solenoid valve and fast idle cam, if equipped
9 Separate the throttle body from the main body Watch it! One screw has a vacuum hole drilled in it Be sure it gets back in the correct place
10 Remove the idle screws but do not disassemble throttle body unless necessary for replacement
11 Clean and inspect all parts carefully
12 Assemble the carburetor using new gaskets and needle and seat assembly Perform adjustments as necessary

FUEL PUMP

Checking Pressure

Fuel pressure is measured with a gauge capable of measuring vacuum and fuel pump pressure If you can get access to such a gauge, here's how you use it

1 Disconnect the center high tension lead from the distributor cap so the engine cannot start
2 Disconnect the fuel line leading to the carburetor, at the fuel pump
3 Attach the pressure gauge to the port from which the line was disconnected at the pump
4 Crank the engine through a few revolutions and observe the reading on the gauge If the reading does not meet the specifications as listed in the chart below, the fuel pump is probably defective A low reading can be cause for poor engine performance at high speed Generally, when a pump is defective, the engine will not start or will stall a short while after consuming the fuel that remains in the carburetor bowl
5 Reconnect center high tension lead to distributor cap after checking pressure

FUEL PUMP SPECIFICATIONS

Datsun Model	Pressure kPa/psi	Capacity @1,000 RPM for 1 Minute
B210	23/3 4	1 Pint
610	21-26/3 0-3 8	2 11 Pints
710	21-26/3 0-3 8	2 11 Pints

Removal

Removing your Datsun's fuel pump is easy and it only takes a few minutes Simply disconnect the fuel inlet and outlet lines and plug them with a golf tee, pencil, or other suitable device Remove the two mounting bolts and lift the fuel pump from the engine block

Rebuild

Your local parts store generally carries rebuild kits for your Datsun fuel pump It's worth checking out before buying a complete unit Typical fuel pumps are illustrated in Figs 53 and 54 Follow the instructions supplied with the rebuild kit

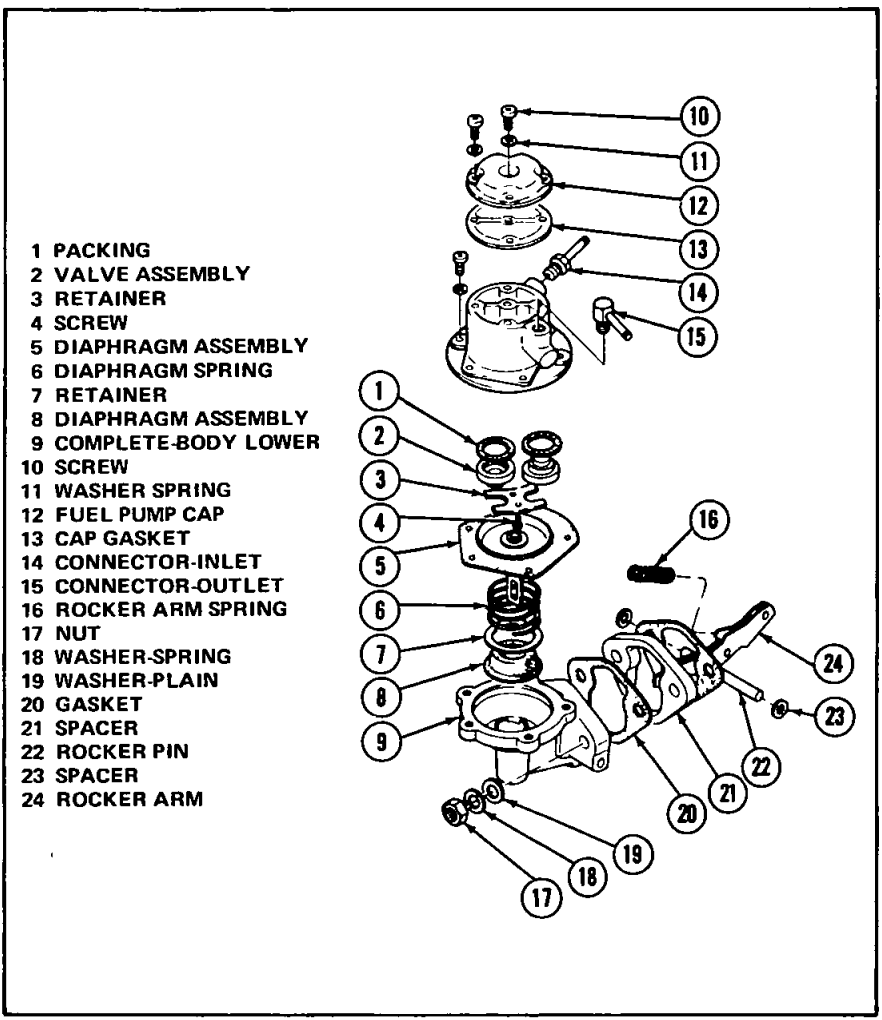
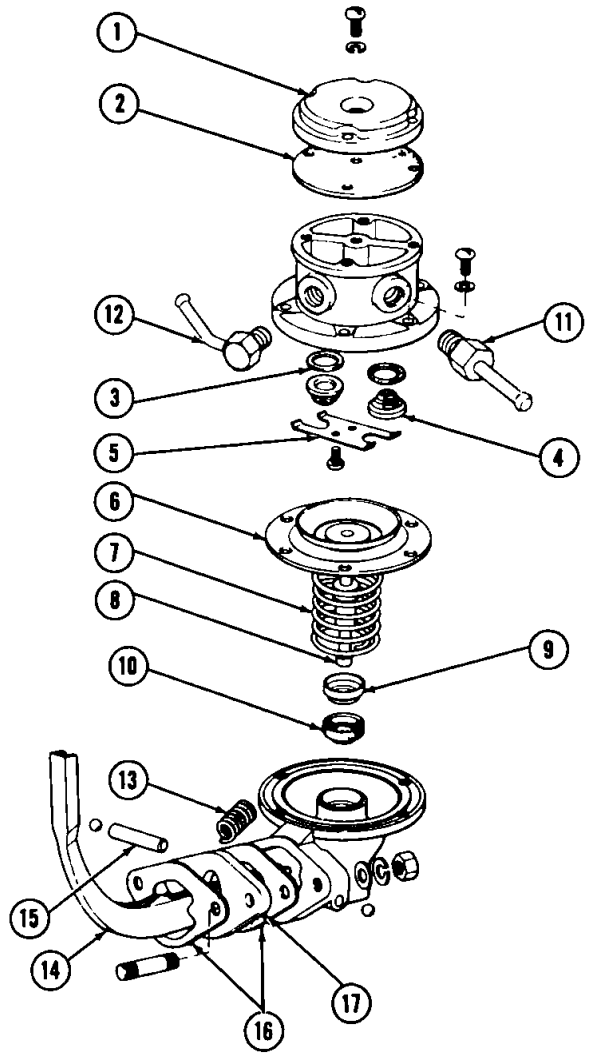


Fig 53 Model B210 fuel pump (typical)



1 FUEL PUMP CAP
2 CAP GASKET
3 VALVE PACKING ASSEMBLY
4 FUEL PUMP VALVE ASSEMBLY
5 VALVE RETAINER
6 DIAPHRAGM ASSEMBLY
7 DIAPHRAGM SPRING
8 PULL ROD
9 LOWER BODY SEAL WASHER
10 LOWER BODY SEAL
11 INLET CONNECTOR
12 OUTLET CONNECTOR
13 ROCKER ARM SPRING
14 ROCKER ARM
15 ROCKER ARM SIDE PIN
16 FUEL PUMP PACKING
17 SPACER-FUEL PUMP TO CYLINDER BLOCK

Fig 54 Model 610 and 710 fuel pump (typical)

Emission Control Systems

Due to the complex nature of the many and varied units used to control air pollution and to contribute to good driveability, we will confine our coverage in this chapter to only the very simple systems on which you can perform routine maintenance

POSITIVE CRANKCASE VENTILATION (PCV) VALVE

The PCV valve is located in the intake manifold, beneath the carburetor It is connected by a hose to the crankcase Do not attempt to clean the PCV valve It must be replaced at the intervals recommended in the maintenance charts in the front of this book However, you can check it to be sure it is operating properly as follows

1 Locate the PCV valve and remove it, Fig 55
2 Turn the valve upside-down You should hear a click if it is operating properly If you do not hear a click, the valve is clogged and should be replaced
NOTE: At this time you should also check and clean the system hose, Fig 55
3 If the valve moves freely (clicks), reinstall it
4 Start the engine and place your finger near the valve Feel for any vacuum If you can feel no vacuum, this indicates the valve is defective and should be replaced

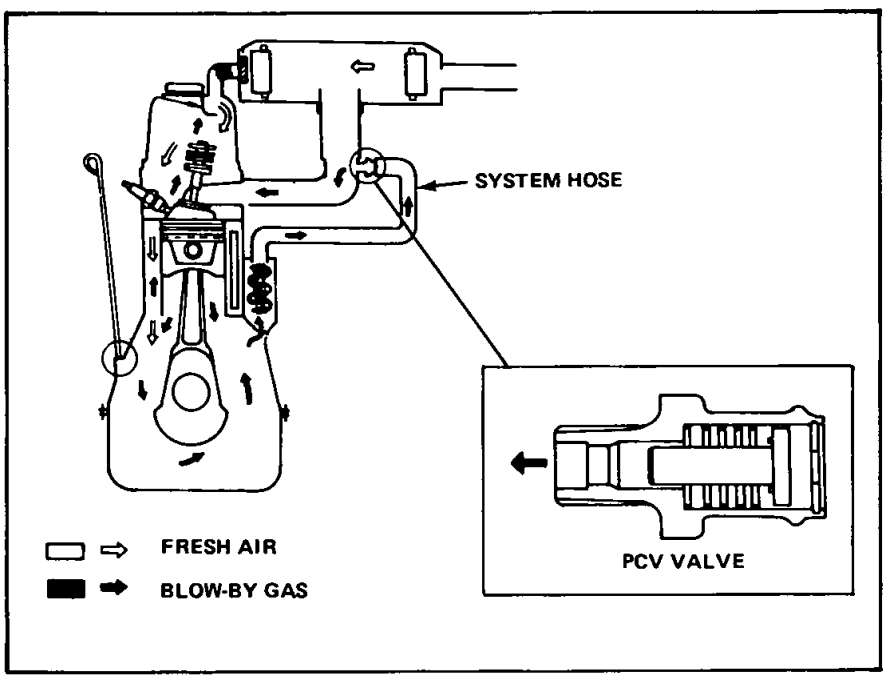


Fig 55 PCV system

5 Replace the PCV valve if applicable and reinstall hose

NOTE: Do not attempt to clean the inside of the PCV valve with solvents While this may seem to free up the valve, it may also make the valve inoperative

PCV maintenance takes just a few minutes

FUEL EVAPORATION CANISTER FILTER

The fuel evaporation canister is located toward the front of the engine, on the carburetor side of the car The canister has a filter which may be replaced with the canister either installed or removed from the car Simply pull out the old filter and insert a new one under the retaining bar, Fig 56

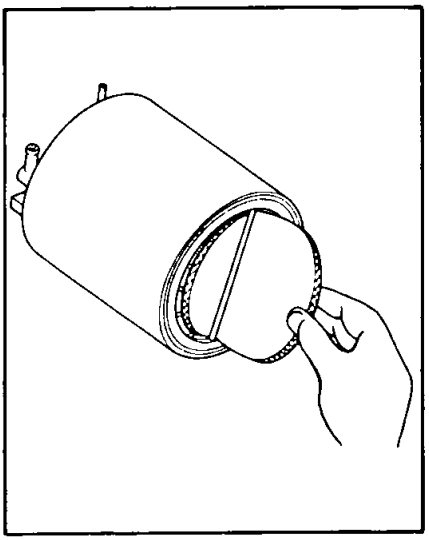


Fig 56 Replacing canister filter

Replace the filter at the intervals listed in the Maintenance Schedule at the front of this book

JUMP-STARTING A A CAR WITH A DEAD BATTERY

Jump-starting a car is a safe and simple matter as long as a few easy-to-remember rules are followed First of all, before attempting to jump-start any car, check your equipment Be sure that the booster cables you are using are heavy-duty cables with good insulation on the clamps and cables Good quality booster cables, using at least a number 6 or 8 gauge wire for stranding, are essential Cables of insufficient wire gauge will quickly dissipate the voltage from the good battery and have very little voltage left to provide a jump-start Also, you may risk personal injury using cables or clamps improperly insulated If the clamps get hot during the jump-start operation, it is likely the booster cables are not adequate

If your car battery is dead, or at any time you are jump-starting a car, be sure that the battery being used to jump-start is the same voltage as the dead battery Also be sure that the dead battery is a negative ground battery *Do not allow the cars to touch while attempting to jump-start* Connect the cables as follows

1 Connect one end of one cable (red or positive) to the positive terminal of the dead battery, Fig 5
2 Connect the other end of this same cable to the positive terminal of the good battery
3 Start the car with the good battery and allow it to run at fast idle for a few minutes
4 Now connect one end of the remaining cable to the negative terminal of the good battery and then clamp the remaining end of the cable to a good ground on the engine with the dead battery

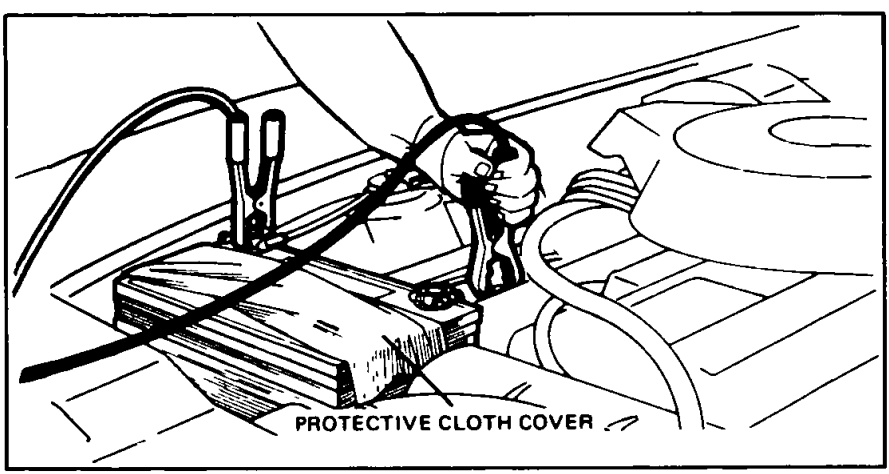


Fig 57 Attaching booster cables

5 Start the car with the dead battery and allow it to run at fast idle for a few minutes
6 Remove the cable end clamped to ground and then remove the other end of this cable from the negative terminal of the car with the good battery
7 Now remove the remaining cable from both cars
8 Have the dead battery tested as soon as possible as it may no longer be serviceable in which case it will only go dead again Also, there may be charging system problems which should be diagnosed by a skilled mechanic using proper equipment

BATTERY AND CABLE CARE

Battery service is only an hour job Yet often the cause of a dead battery or a no-start problem can be directly traced to a buildup of acid corrosion on the battery terminals (which allows the battery voltage to leak to ground and slowly discharge the battery or introduces a high resistance into both the charging and starting circuit) or to broken or frayed battery cables In cold weather, if the battery charge is not maintained and cells kept filled, it is likely the battery will freeze or at least not provide enough voltage to start the car

Make it a practice to periodically inspect the battery, cables and connections Many a dead battery problem could have been avoided if good practices were followed The following routine steps will help to prolong the life of your battery

1 Make sure the battery always has the water level up to the bottom of the filler holes Use distilled water, available at hardware stores, if your local water supply is high in mineral content
2 Clean any accumulation of dirt or corrosion off the battery terminals, Fig 58, and tray This can easily be done with a solution of baking soda and water which will neutralize the battery acid build-up

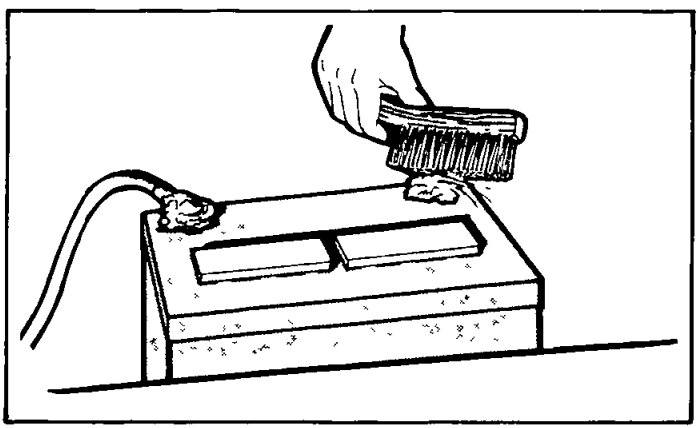


Fig 58 Cleaning battery terminals

To be sure that this solution does not get into the battery cells, keep the vent caps in place if they are of the removable type

3 Check the ends of the cables to be sure they are not frayed and to see that the cable insulation has not been damaged, Fig 59 Poor insulation can allow the cable to ground against the car body or other point, producing a short Replace any damaged or frayed cables immediately

4 Coat the battery terminals lightly with heavy grease after replacing and tightening the cables, Fig 60

Be sure cables are replaced on the correct terminals The negative (−) terminal of the battery goes to ground and it should always be connected last and removed first to avoid sparks

5 Make sure the battery is properly secured in its tray so that it cannot bounce around A loose battery can be damaged internally or even externally from the excessive vibration A loose battery will also place a strain on the cables and terminals

ALTERNATOR REPLACEMENT

If your dead battery is being caused by a no-charge condition, the alternator may be the cause Many repair shops will test the alternator for a nominal charge You can save the expense involved in the removal and overhaul of this unit by simply removing it yourself and replacing it with a new or rebuilt unit which can be obtained at your local auto parts supply store You can also check with your local salvage yard Although the cars these parts came from were wrecked, many parts may well be in good condition and have many thousands of miles left in them Be sure you fully understand any warranty that you may get with all new, used or rebuilt parts

Here's how to replace the alternator

1 Disconnect the battery ground cable to prevent accidental shorts

2 Loosen the alternator mounting bolts and remove the alternator attaching bolt from the adjustment arm

3 Slip the drive belt off pulleys

4 Properly tag and remove the wires from the alternator

5 Remove the alternator mounting bolt and remove the alternator, Fig 61

6 Install the replacement alternator and slip the drive belt over pulleys, Fig 62

7 Using a length of wood, pry the alternator away from the engine to properly tension drive belt as described in the Replacing Drive Belt portion of this book Tighten the alternator bolts When prying, use a piece of wood placed against alternator housing so as not to damage alternator

8 Reconnect the alternator wires to the terminals and start the engine to check that alternator is charging

It should take you about an hour to remove and replace the alternator

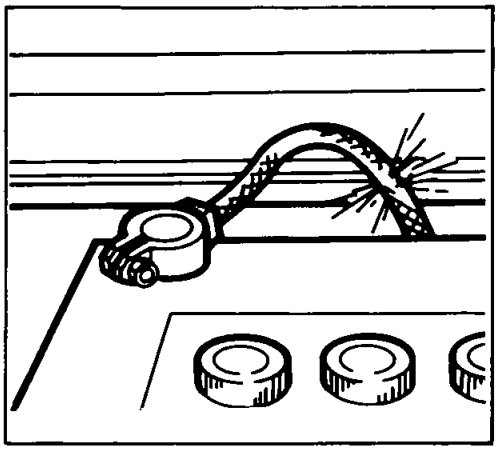


Fig 59 Inspect battery cables

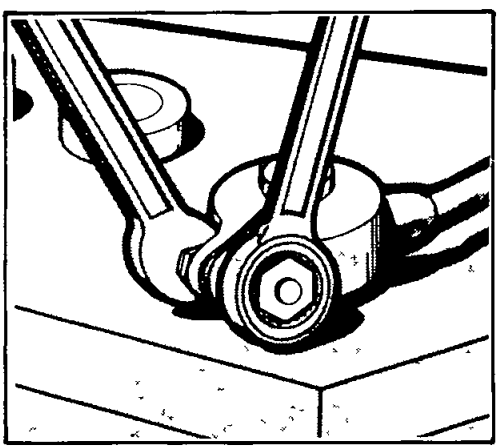


Fig 60 Installing battery cables

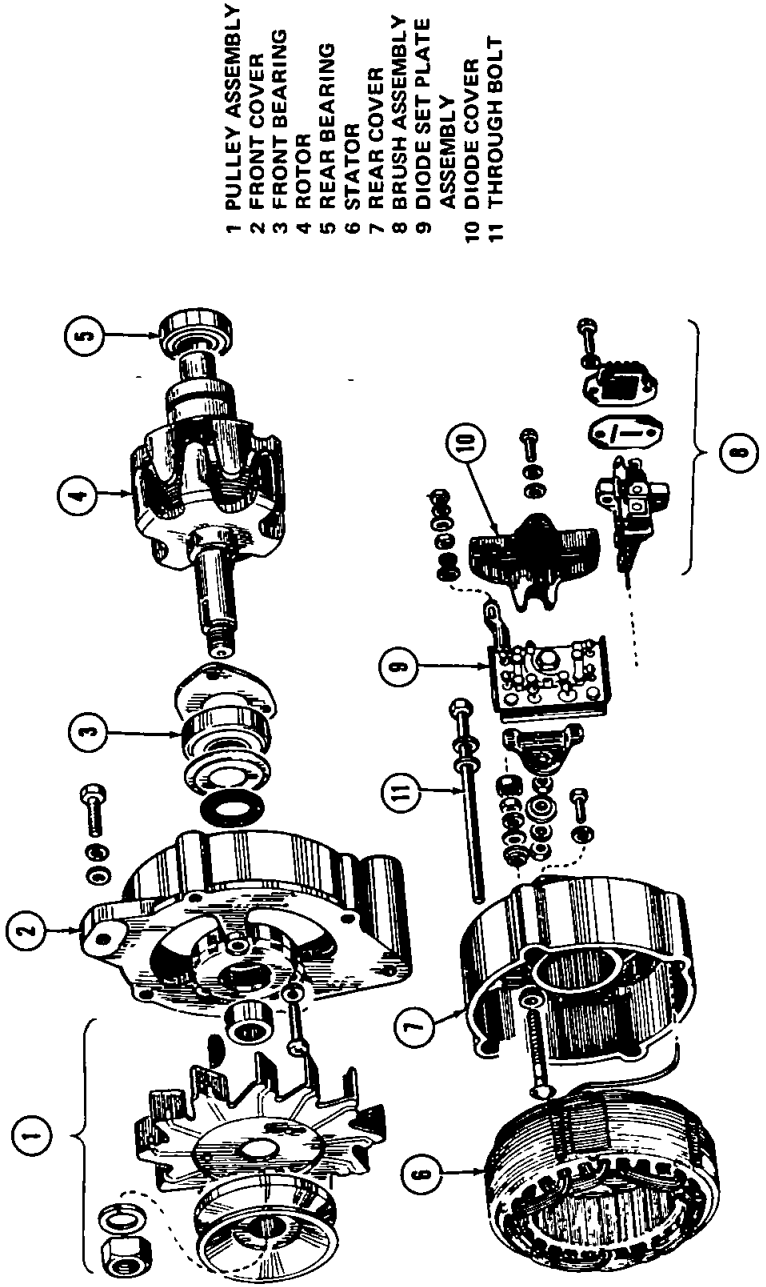


Fig 61 Typical Datsun alternator

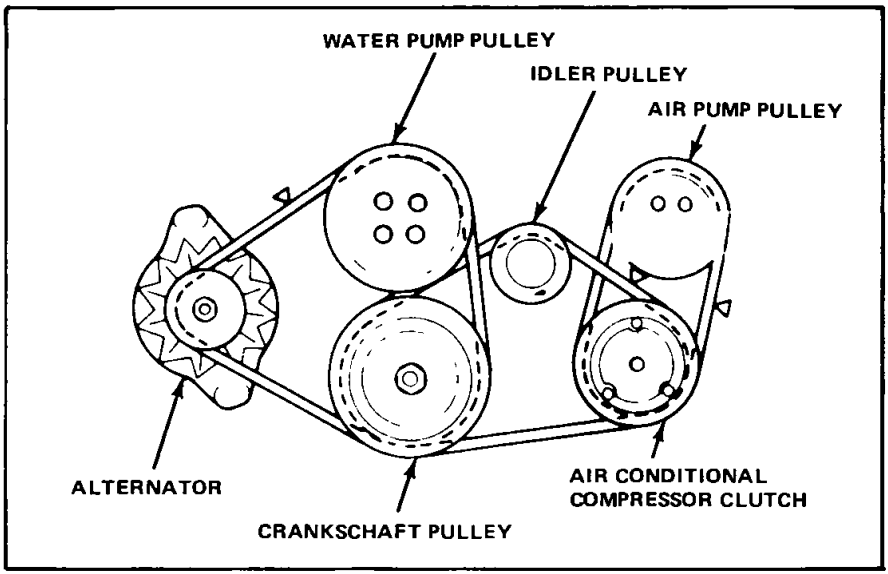


Fig 62 Typical drive belt arrangement

VOLTAGE REGULATOR REPLACEMENT

Two types of voltage regulators are used on Datsun vehicles The first is the traditional electro-mechanical unit The second is a solid state unit that is an integral part of the alternator brush assembly

If either type of voltage regulator fails, you may experience frequent no-charge battery conditions, over-charged batteries, short bulb and headlamp life, frequently blown fuses and a dimming of headlights or instrument panel lights when you turn on the heater or blow your horn If your car is equipped with the electro-mechanical type regulator, you can save the labor cost by removing it yourself, and it shouldn't take more than 20 minutes

The solid state-type regulator is complex, however, and any repair or replacement procedure should be done by a qualified mechanic To replace an electro-mechanical type voltage regulator

1 Disconnect the battery ground cable to prevent accidental shorts
2 Remove the two bolts that hold the regulator to the fender wall
3 Unplug the quick connector from the regulator, and remove the regulator from the car
4 Reverse the procedure to install

NOTE: It is wise to replace this type regulator when you replace your alternator If the regulator is defective, it could damage a new or rebuilt alternator

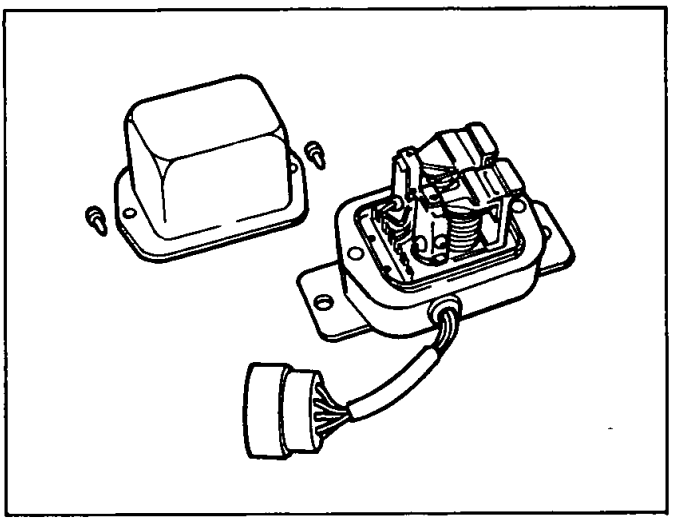


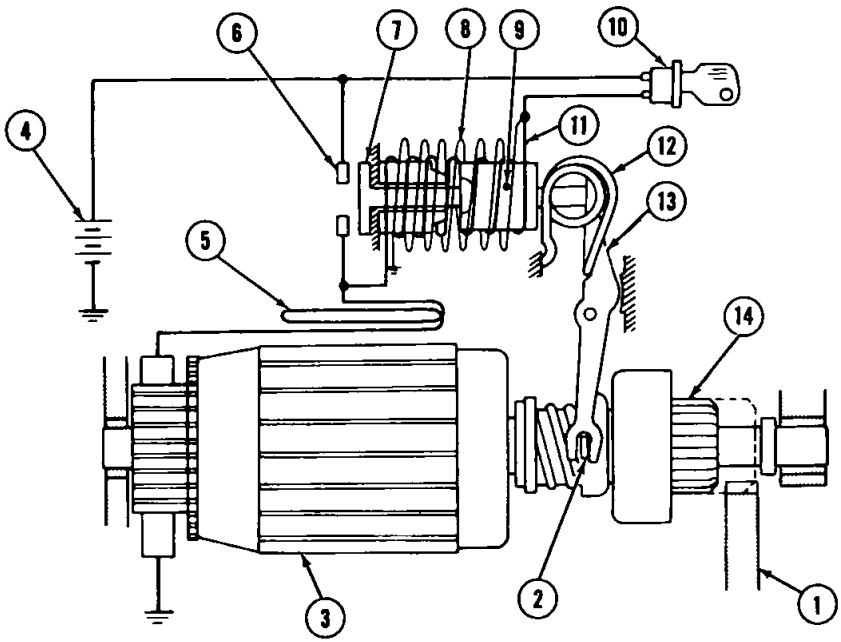
Fig 63 Voltage regulator

STARTER MOTOR REPLACEMENT

Slow cranking can be caused by the starter motor having too much resistance In other words, the battery voltage is being used up trying to activate the starter motor and too little voltage is left to crank the engine This symptom calls for removal and subsequent overhaul of the starter In about an hour you can remove the starter yourself and replace it with a new or rebuilt unit, which you can buy at your local auto parts supply store And once again, don't forget the auto salvage yard You can get a starter motor here at a greatly reduced price and save the costly overhaul Furthermore, you will also have replaced the solenoid and the starter drive Replace the starter as follows

1 Disconnect the battery ground cable
2 Disconnect the black wire with a yellow stripe from the magnetic switch terminal See Fig 64 for starting motor circuit
3 Remove the black battery cable from the battery terminal of the magnetic switch
4 Remove the two bolts securing the starter motor to the transmission case
5 Pull starter assembly forward and remove it from the car

Installation is the reverse of the removal procedures



1 RING GEAR
2 SHIFT LEVER GUIDE
3 ARMATURE
4 BATTERY
5 FIELD COIL
6 STATIONARY CONTACT
7 MOVABLE CONTACTOR
8 SHUNT COIL
9 PLUNGER
10 IGNITION SWITCH
11 SERIES COIL
12 TORSION SPRING
13 SHIFT LEVER
14 PINION

Fig 64 Starter motor circuit

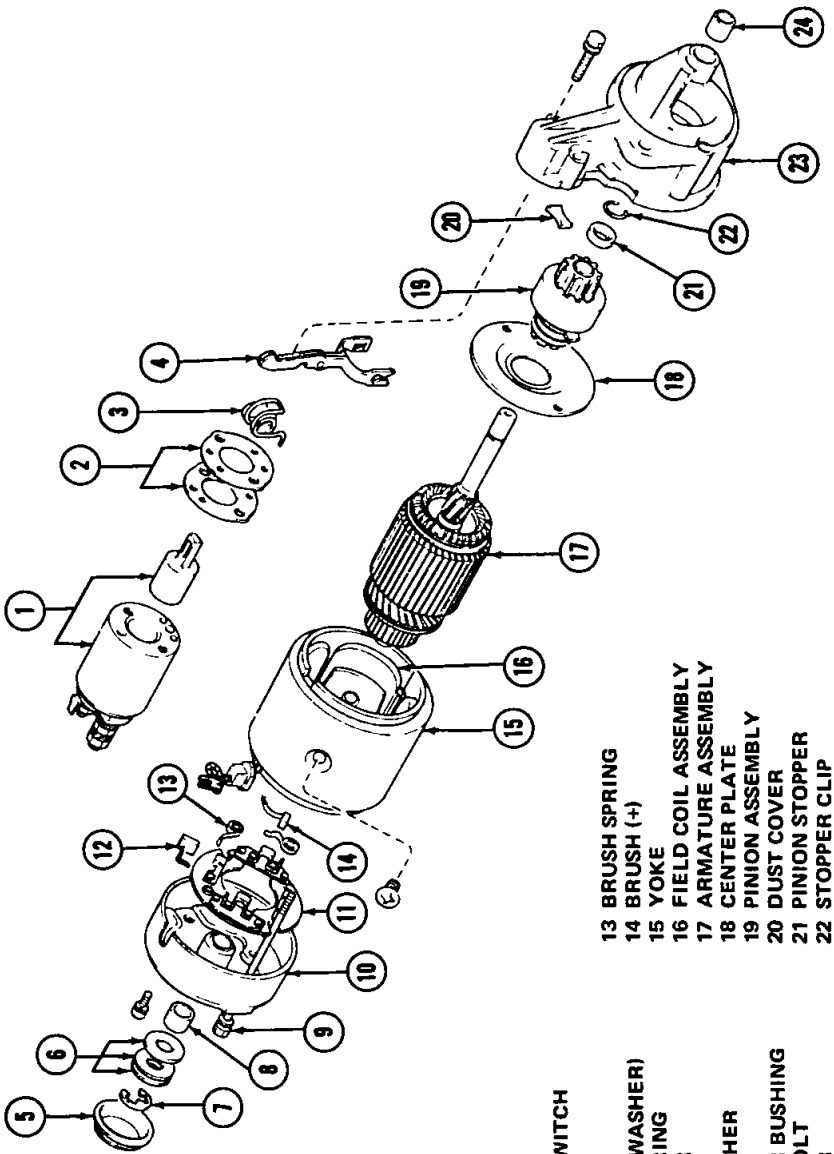


Fig 65 Typical Datsun starter

STARTER CLUTCH REPLACEMENT

If you hear a grinding sound when starting your car, don't be surprised to find the starter gear teeth somewhat mangled This is easy to repair, but before you start, familiarize yourself with the internal workings of the starter, Fig 65 Allow about an hour of your time for this repair job

1 Remove the starter from the car
2 On a clean bench, loosen two through bolts Fig 66 Pull bolts back until just clear of of gear case, but do not remove from starter assembly
3 Remove the two bolts that attach the magnetic switch assembly
4 Remove gear case from starter assembly You may have to gently tap or pry the gear case to free the case from the yoke
5 Lift the shift lever from the pinion assembly
6 Remove the pinion stopper located at the end of armature shaft To remove the pinion stopper, first move the stopper toward the pinion and remove the stopper clip, then remove the stopper with the overrunning clutch assembly from armature shaft, Fig 67
8 Inspect the pinion assembly It must slide freely along armature shaft splines If you find damage, or if the teeth are bent or ground down, or resistance is felt when sliding the assembly on the splines, replace the unit Also inspect the flywheel for damage

Installation is the reverse of the removal procedures

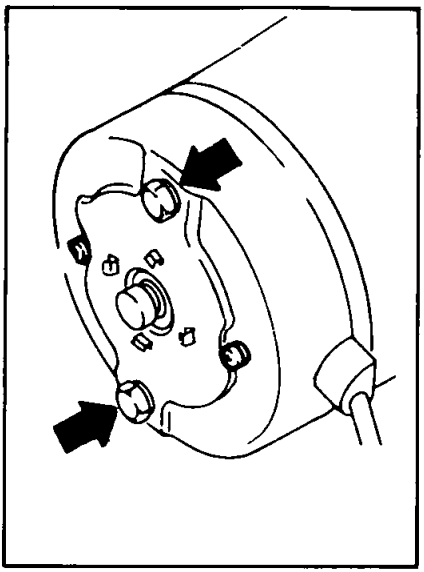


Fig 66 Through bolt locations

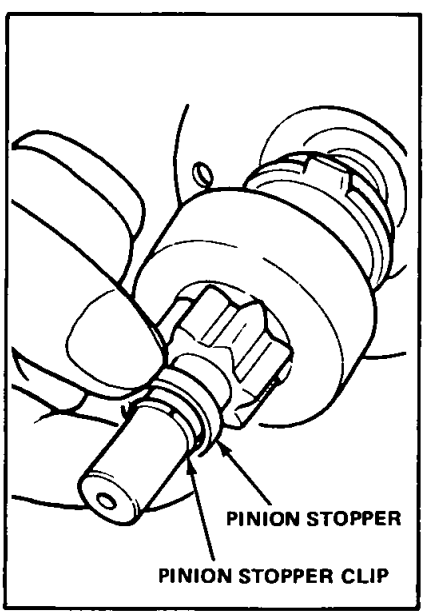


Fig 67 Removing pinion stopper

RADIO REPLACEMENT

If your radio has been blowing fuses, the chances are it must come out for repair If you want to "update" your radio system with an in-dash AM/FM or stereo tape deck or CB unit, the first step is removing the old radio In either case, you can save a big part of the total repair cost by removing the radio and reinstalling it once it's repaired, or installing your new unit And, since radio repairmen are not auto mechanics, you can remove the radio as easily (and a lot more cheaply) as they can

Removing the radio from your Datsun is a simple task, but on all models covered in this book, at least part of the dash must be removed Don't let this discourage you, just think of all the money you are saving

If you are installing a radio or tape deck into your car for the first time, be sure to wire it to a fused circuit Wiring it through such a circuit (the ignition switch for example) will prevent a discharge battery if you leave the radio on for an extended period

Here is how to replace a radio

Model B210

1 Disconnect the battery ground cable
2 Pull off all radio knobs, Fig 68 Then remove instrument cluster panel by removing four screws securing shell covers, and take out shell covers, Fig 69
NOTE: To make removal of the cluster panel easier, the steering wheel and turn signal switch may be removed

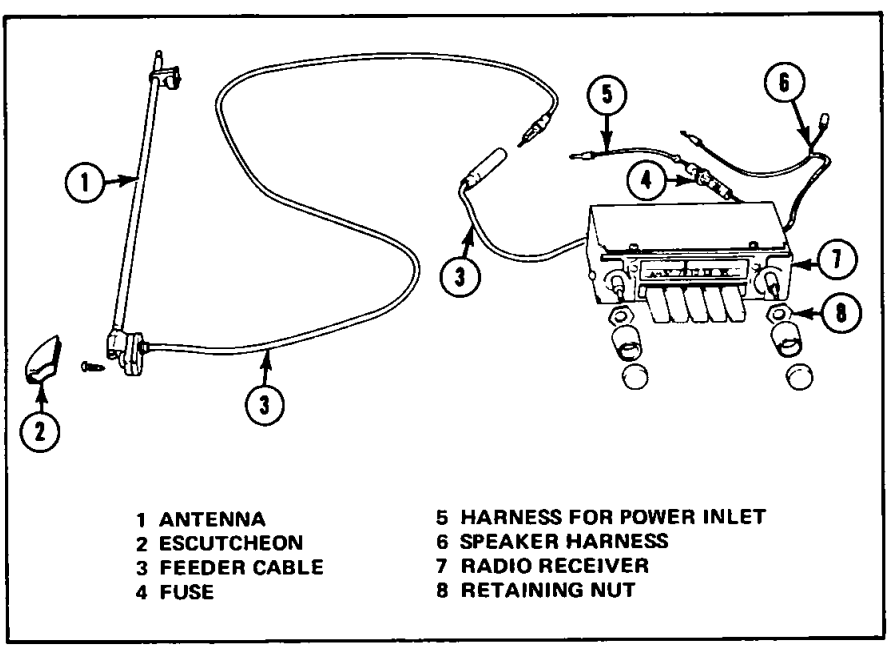


Fig 68 Radio system – Model B210

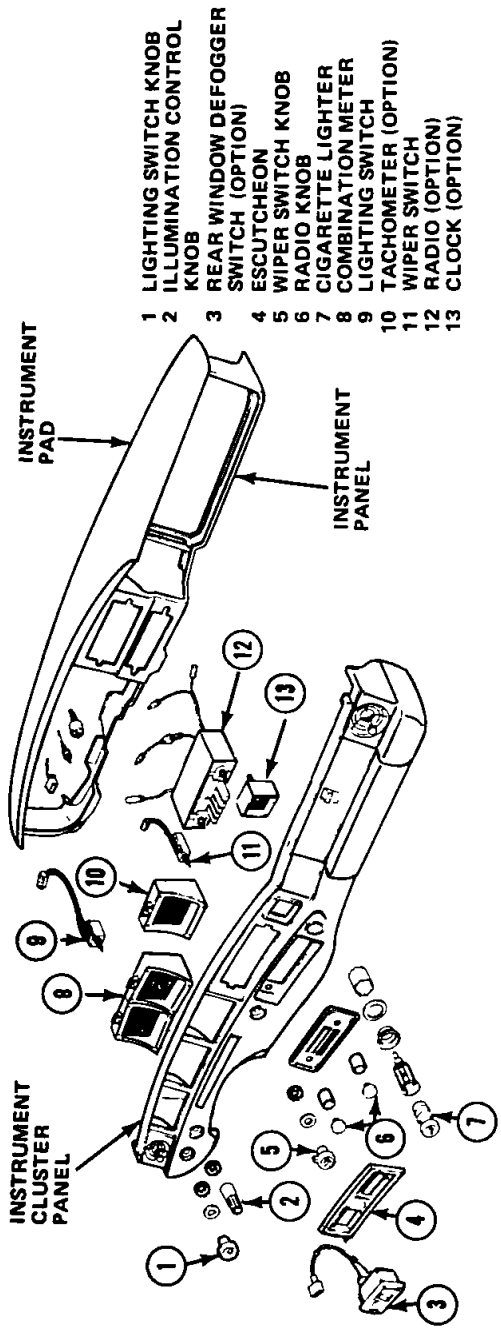


Fig. 69 Instrument panel assembly – Model B210

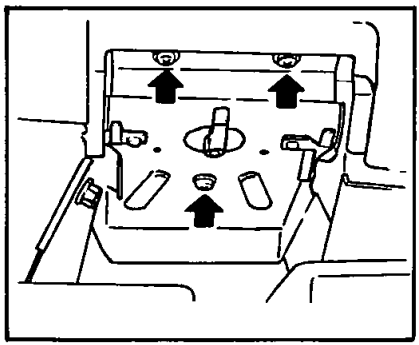


Fig 70 Removing ash tray cover – Model B210

3 Pull out the ash tray and remove it by loosening the three retaining screws, Fig 70
4 Remove the wiper switch knobs, lighting switch and illumination switch and remove retaining ring on each switch
   - The lighting switch and wiper switch can be removed by pressing in and turning them counterclockwise
   - The illumination switch pulls straight off
5 Remove the retaining nuts from the radio controls
6 Remove the ten screws retaining cluster panel to instrument panel four screws are located on upper side of panel, three are beneath panel, and three screws retain the ash tray outer case
7 Pull the cluster panel out from the instrument panel a little, disconnect the lead wires for the cigarette lighter, rear window defogger switch, clock, seat belt warning lamp and turn signal pilot lamps
8 Remove the cluster panel from the car
9 Disconnect the three harnesses and feeder cable from the radio antenna
10 Remove the retaining screws from the radio mounting bracket and lift the radio from the dash
11 To install the radio, connect the three harnesses and the feeder cable to radio with the retaining screws
12 Adjust the antenna trimmer as follows, Fig 71

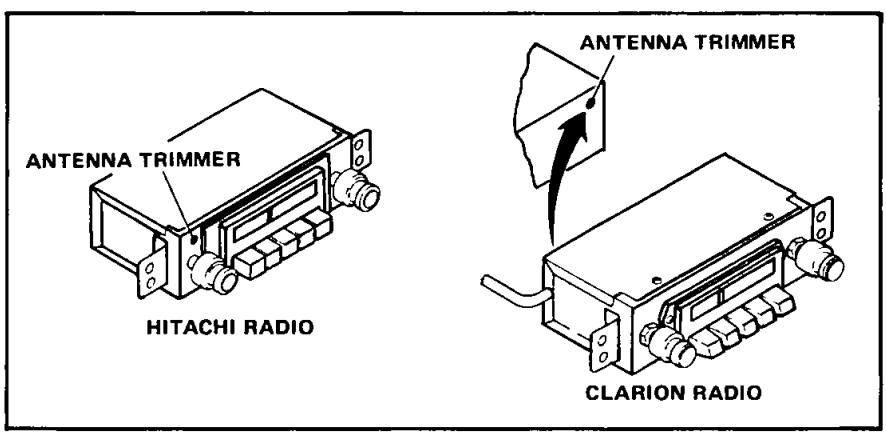


Fig 71 Antenna trimmer adjusting screw – Model B210

NOTE: Never operate the radio with the speaker disconnected

- Extend the antenna completely
- Tune in the weakest station between 12 and 16 (1200 to 1600 Hz) on the dial Some noise may be present, but disregard it
- Turn the antenna trimmer to left and right slowly with screwdriver and set where the station comes in best

13 Reinstall the dash panel by reversing steps 1 through 11

Model 610

1 Disconnect the battery ground cable

NOTE: If you are just going to replace the speaker, remove the instrument panel as outlined in steps 2 to 8 below If you are only removing the radio, remove the cluster panel as outlines in steps 9 to 12 below

2 Remove the horn bar, steering wheel and shell assembly, Fig 72

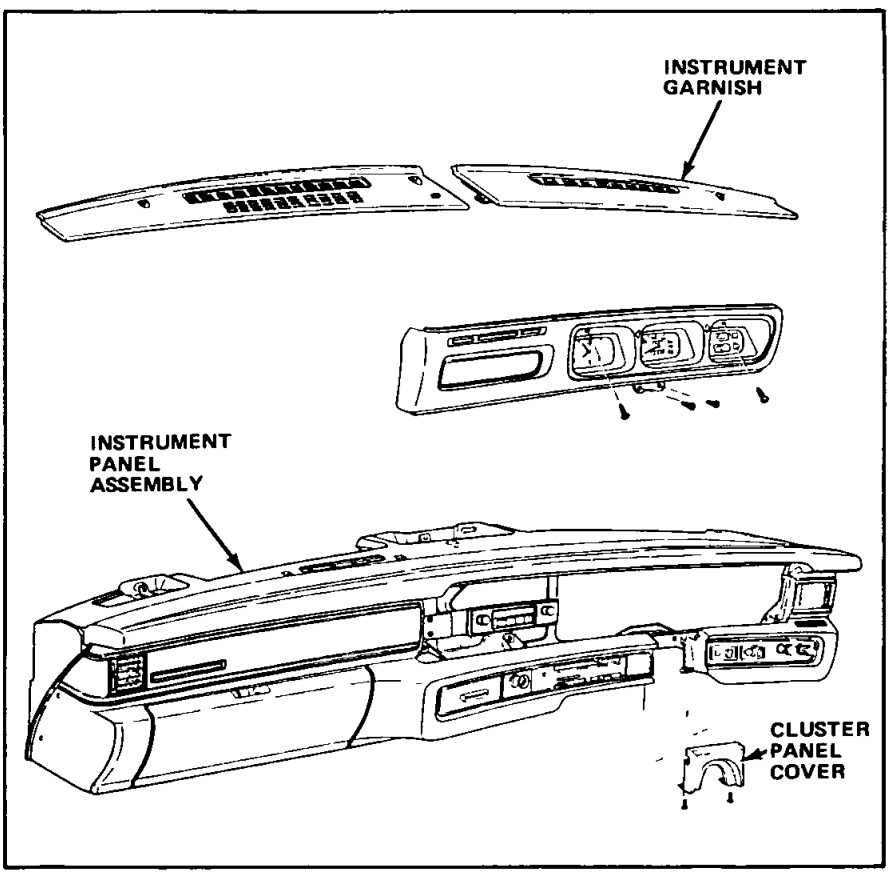


Fig 72 Instrument panel assembly – Model 610

3 Remove the heater control cable clamps from the heater assembly, Fig 73
4 Disconnect the speedometer cable behind the speedometer
5 Disconnect the body and instrument harnesses at connector, Fig 74
6 Remove the instrument garnishes from the instrument panel
7 Remove the cluster panel
8 Loosen the bolts attaching the instrument panel and draw the instrument panel assembly out backward from the car, Fig 75

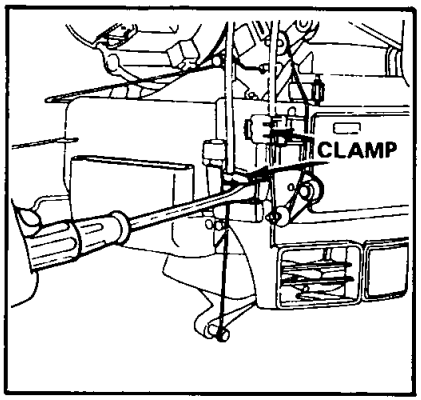


Fig 73 Removing heater control cable clamps – Model 610

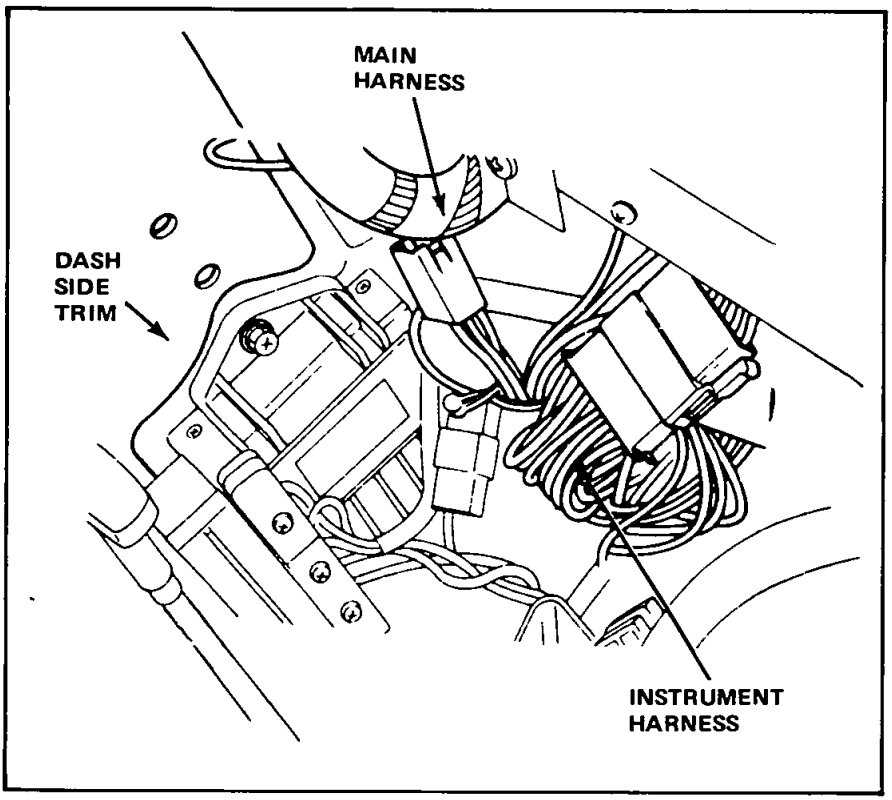


Fig 74 Instrument harness connector – Model 610

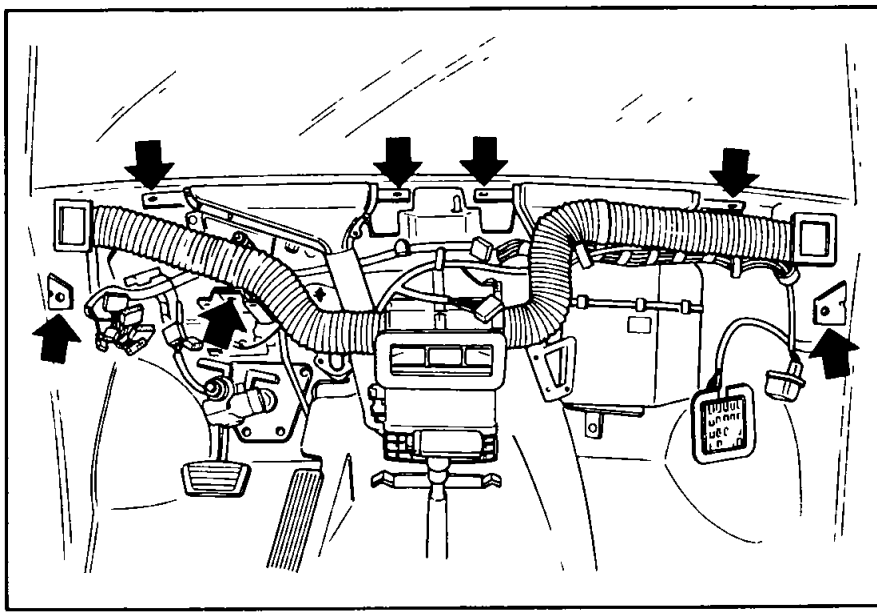


Fig 75 Panel attaching bolt locations – Model 610

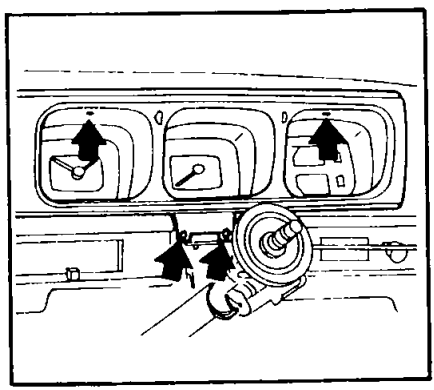


Fig 76 Removing cluster panel attaching screws – Model 610

9 To remove only the cluster panel, remove the steering column shell and cluster panel cover, Fig 76 It is not necessary to remove the steering wheel

10 Remove the speedometer cable from back side of the speedometer

11 Loosen the screws attaching the cluster panel and draw the cluster out backward from the car

12 Disconnect the wiring harnesses from the back side of gauges

13 Disconnect the radio wires from the instrument harness at the connector, Fig 77

14 Disconnect the speaker wires from the instrument harness at the connector

15 Remove the antenna lead wire at the connector

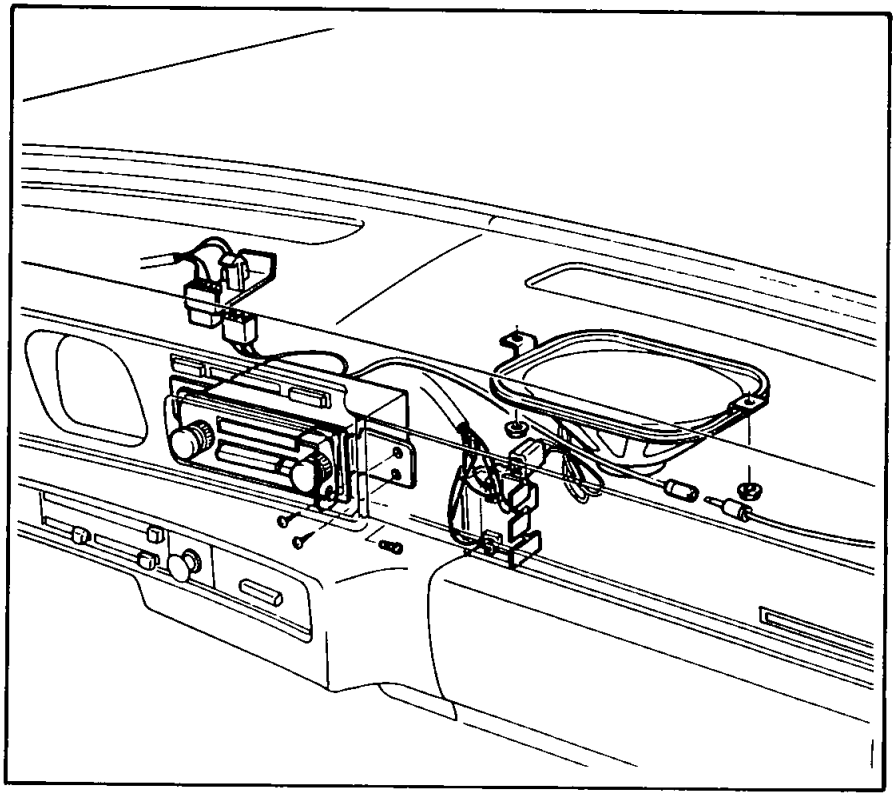


Fig 77 Radio installation – Model 610

16 Remove the two screws holding the radio to the panel and remove the radio

17 Remove the two flange nuts holding the speaker to the instrument panel and remove the speaker, if replacing the speaker

18 To install, position the radio and speaker (if removed) and attach the wires Adjust the antenna trimmer as follows, Fig 78

NOTE: Never operate the radio with the speaker disconnected

- Extend the antenna completely
- Tune in the weakest station between 12 and 16 (1200 to 1600 Hz) on the dial Some noise may be present, but disregard it
- Turn the antenna trimmer to the left and right slowly with screwdriver and set where station comes in best
- Reinstall the dash panel by reversing the above steps

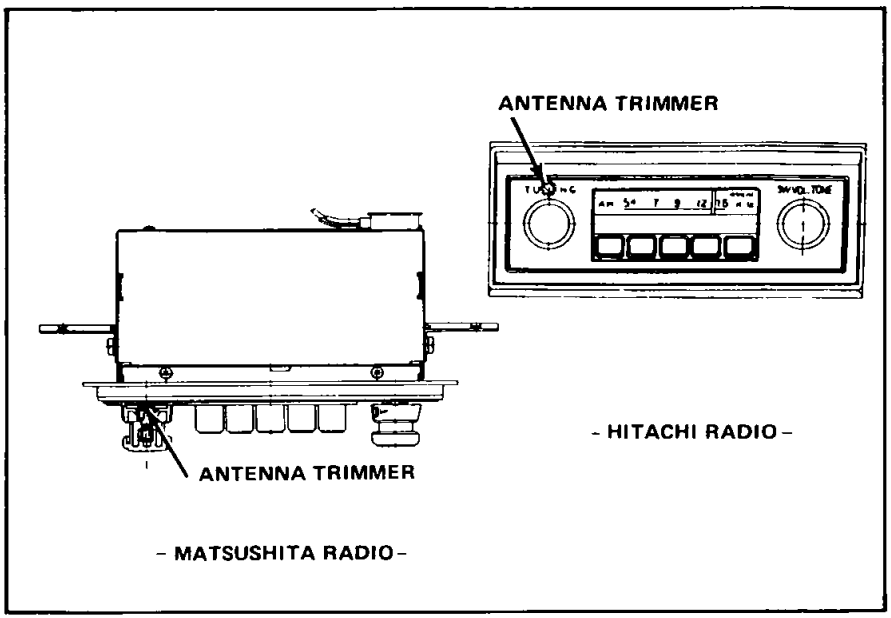


Fig 78 Antenna trimmer adjustment screw – Model 610

Model 710

1 Disconnect the battery ground cable
2 Remove the cluster panels A and B as follows, Fig 79
   - Remove the four screws securing the shell covers and take out the shell covers The steering wheel and turn signal switch may be removed to facilitate removal of cluster panel
   - Remove the wiper switch knob and illumination control switch located on cluster panel B and unscrew the ring nut
   - Remove the two screws retaining the cluster panel B to instrument panel from beneath instrument panel Remove panel B
3 Draw out the ash tray
4 Disconnect the four connectors for instrument harness These connectors are located behind the left side of the instrument panel
5 Remove the ten screws around cluster panel A Five screws are located on the upper side and three are located beneath cluster panel A Do not forget to remove the two screws located at the ash tray cover and behind panel B
6 Disconnect the speedometer cable, radio speaker harness and antenna feeder cable at the connectors At the same time, disconnect wires to illumination lamp, knob illumination fiber scopes and tachometer Fiber scopes for wiper switch, hazard switch and lighting switch can be disconnected by pulling them out of the illumination lamp

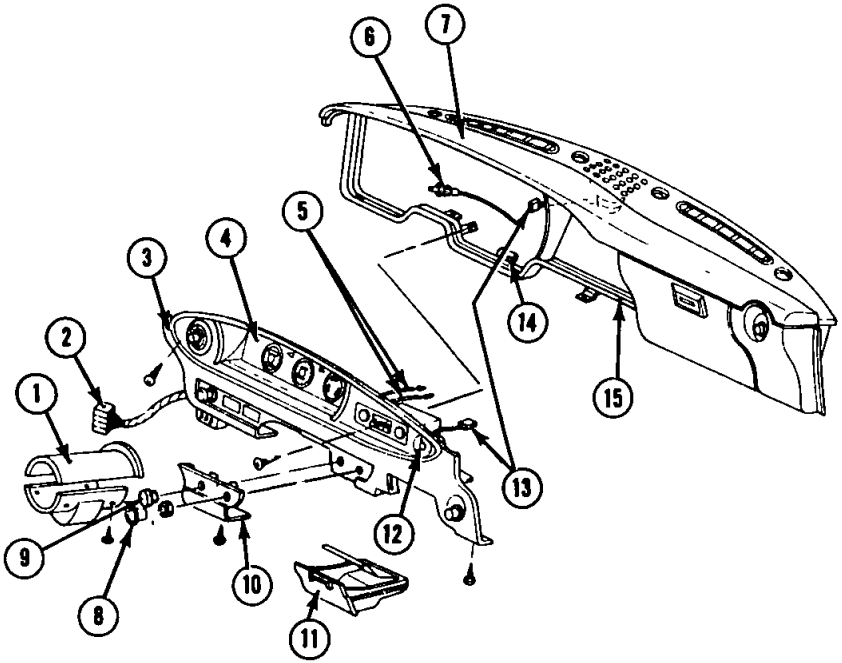


Fig 79 Cluster panel removal – Model 710

7 Remove the four retaining screws and remove the radio, Fig 80

8 Remove the two screws securing speaker to dash panel from under the dash panel and remove the speaker

9 To install, position the radio and speaker and reconnect wires

10 Adjust the antenna trimmer as follows, Fig 81

NOTE: Never operate the radio with the speaker disconnected

- Extend the antenna completely
- Tune in the weakest station between 12 and 16 (1200 and 1600 Hz) on the dial Some noise may be present, but disregard it
- Turn the antenna trimmer to the left and right slowly with screwdriver and set where station comes in best

11 Reinstall the dash panel by reversing the above steps

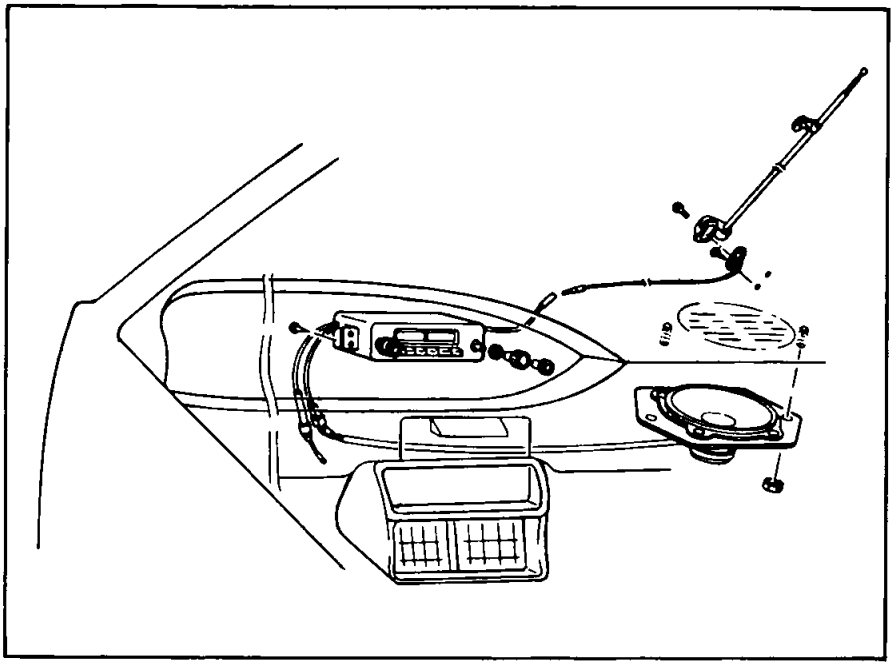


Fig 80 Radio installation – Model 710

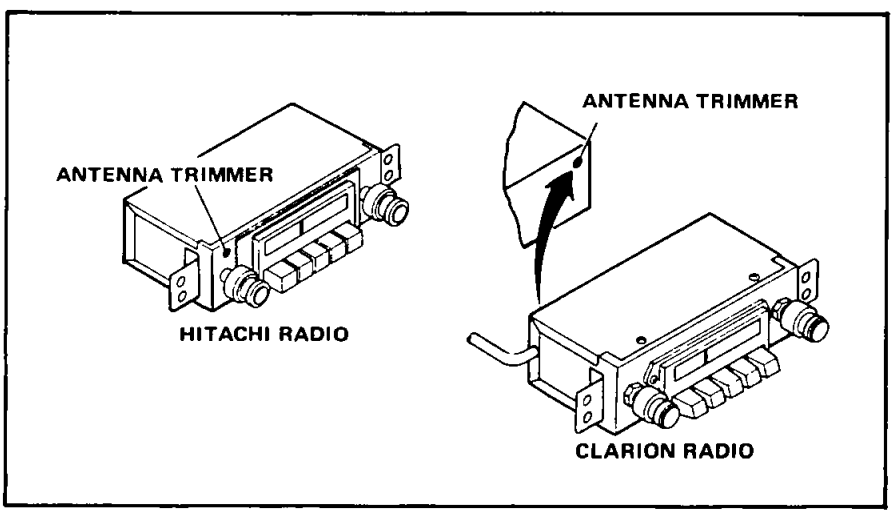


Fig 81 Antenna trimmer adjustment screw – Model 710

W/S WIPER BLADE REPLACEMENT

If your windshield wipers are smearing the glass, chances are that the wiper blades should be replaced The rubber element has most likely become hard and damaged from wiping over an accumulation of dirt on the windshield It is also likely that the wiper arms have lost tension and therefore do not apply enough pressure on the blades to wipe the glass clean

Few mechanics, if any, would charge you to install these parts if they were selling them to you Therefore, by doing it yourself, you won't save any labor charges But you can buy these parts more cheaply at auto and discount stores, so you will save money on the parts And you will be driving more safely since you will be seeing more clearly in wet weather It only takes a few minutes to replace wiper blades, and you can replace them as follows

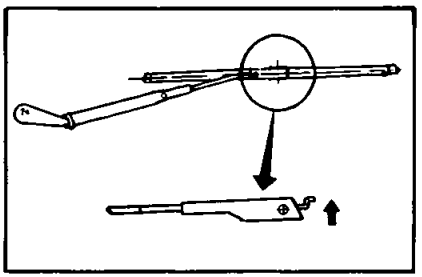


Fig 82 Removing wiper blade

To remove a blade, simply pick up the tab to unlock the blade lock and pull the blade off the top end of the wiper arm, Fig 82 To install a blade, lift the

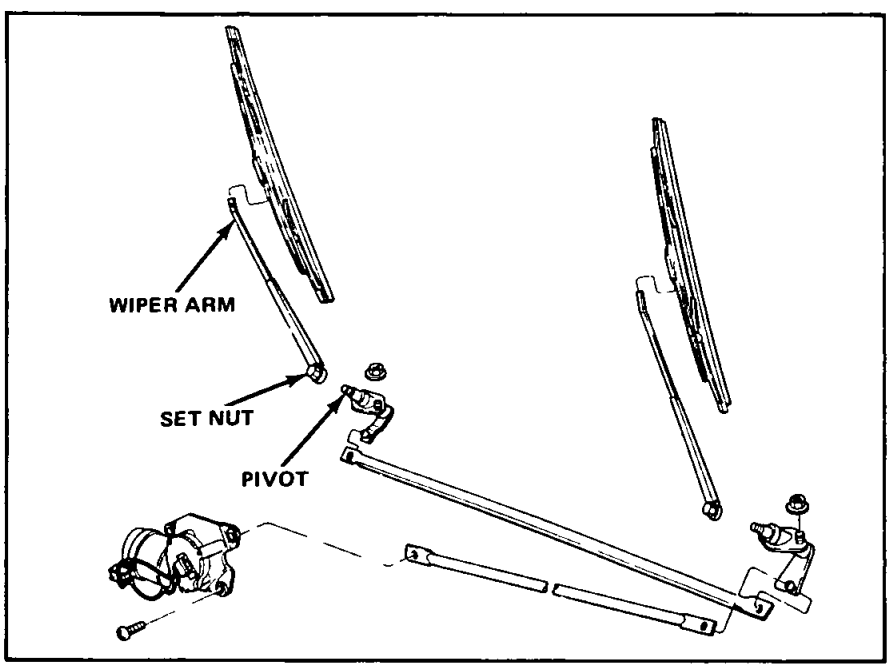


Fig 83 Windshield wiper assembly

wiper clear from the windshield and slide the new blade until the tab "clicks" firmly into place

W/S WIPER ARM REPLACEMENT

Replacing a wiper arm is a simple task that will only take 15 minutes

1 Raise the wiper arm assembly from the windshield

2 Unscrew the arm set nut The arm can be then pulled off pivot, Fig 83

3 Install in the reverse sequence, tightening the set nut firmly and taking care not to over-tighten

NOTE. Be sure to install the arm in correct "park" position Adjust the position of arm to provide clearances shown in Fig 84

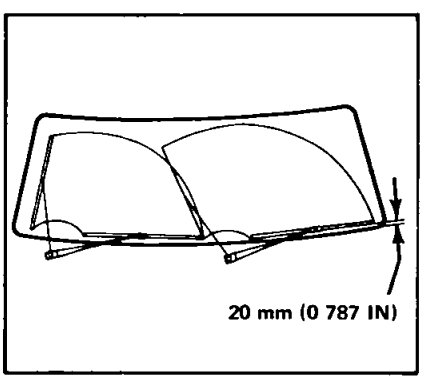


Fig 84 Wiper arm adjustment

W/S WIPER MOTOR AND LINKAGE

1 Remove the wiper arm

2 Open the hood, disconnect the battery ground cable to prevent shorts

3 Disconnect the wiring connector on the wiper motor

4 Remove the cowl top grille by removing cowl top retaining screws

5 Remove the wiper motor retaining bolts

6 Pull the wiper motor assembly outward a little, and disconnect the wiper motor from the wiper linkage at junction, Fig 85

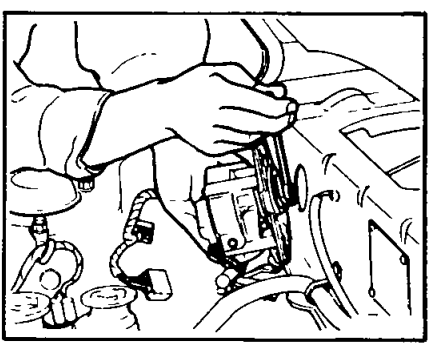


Fig 85 Removing motor shaft connecting nut

7 Remove the flange nuts attaching the pivot to the cowl top panel and take out the linkage assembly, Figs 86 and 87

8 Reverse this sequence for installation

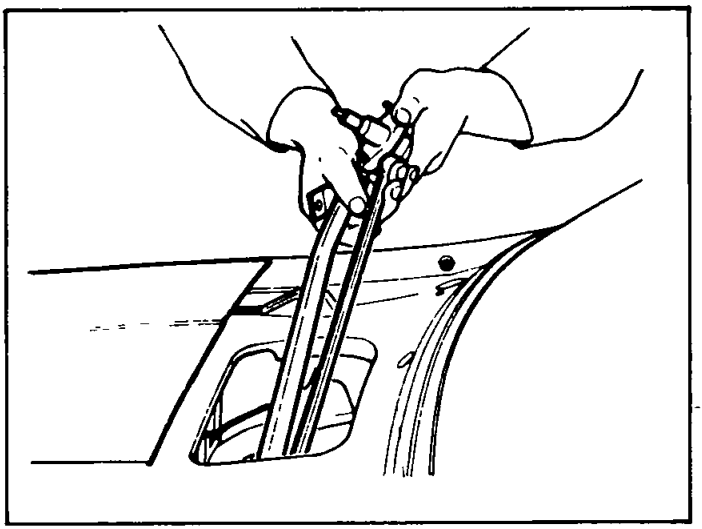


Fig 86 Removing linkage assembly

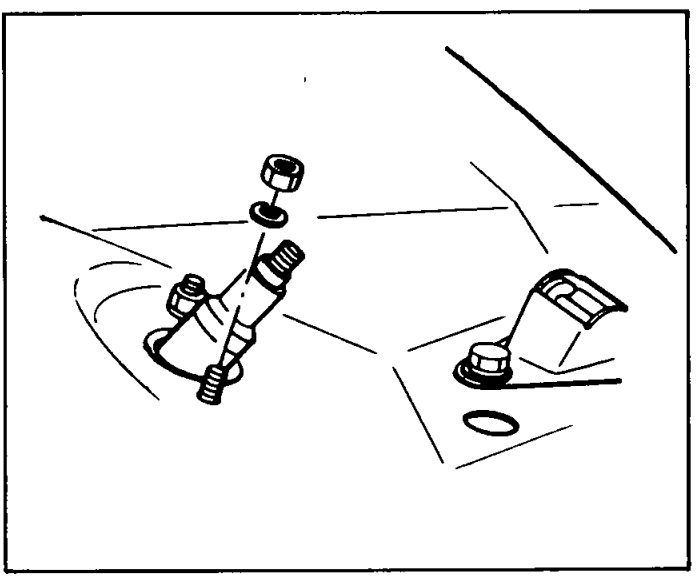


Fig 87 Flange nuts

WASHER FLUID NOZZLE ADJUSTMENT

Adjust nozzle so that windshield washer fluid is sprayed properly by bending nozzle with a screwdriver You can make this adjustment through the cowl top grille

LIGHT SWITCH REPLACEMENT

It may be necessary for you to remove the headlight switch in order to gain access to another component or to replace the switch itself Here's how to do it in only a few minutes

Model B210

1 Disconnect the battery ground cable

2 Depress the switch knob and turn it counterclockwise Knob can then be easily taken out, Fig 88

3 Unscrew the ring nut securing the switch assembly to the instrument panel

4 Reaching up from underneath instrument panel, disconnect the lead wires to the lighting switch at the connector, and remove the switch assembly

5 Installation is the reverse of removal

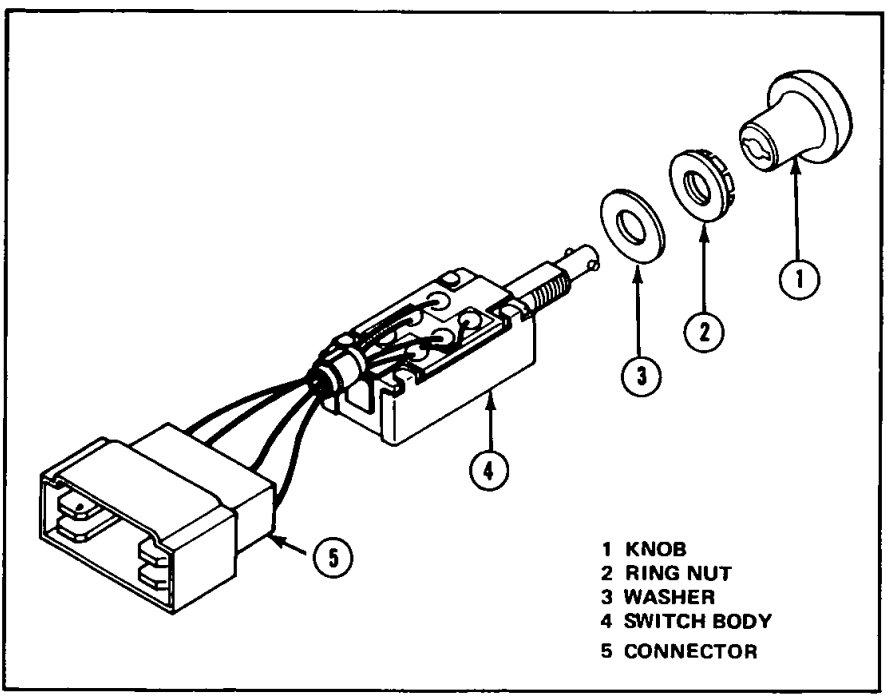


Fig 88 Light switch – Model B210

Model 610

1 Disconnect the battery ground cable
2 Remove the instrument cluster panel, Fig 89
3 Remove the mounting screws from the front of cluster panel "A", also reach under panel and remove one additional mounting screw
4 Remove the light switch knob by depressing and turning counterclockwise, Fig 90
5 Unscrew the retaining ring nut from switch assembly
6 Unplug the switch and remove it from the dash
7 Installation is in the reverse of removal

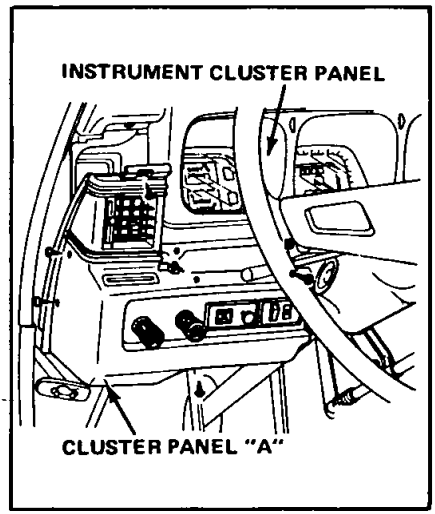


Fig 89 Instrument cluster panel – Model 610

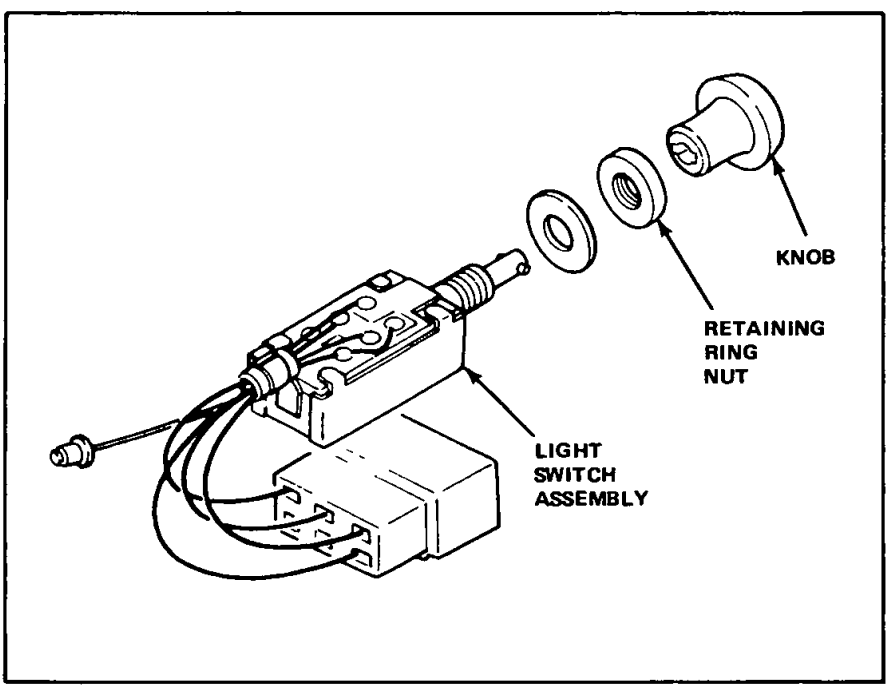


Fig 90 Light switch – Model 610

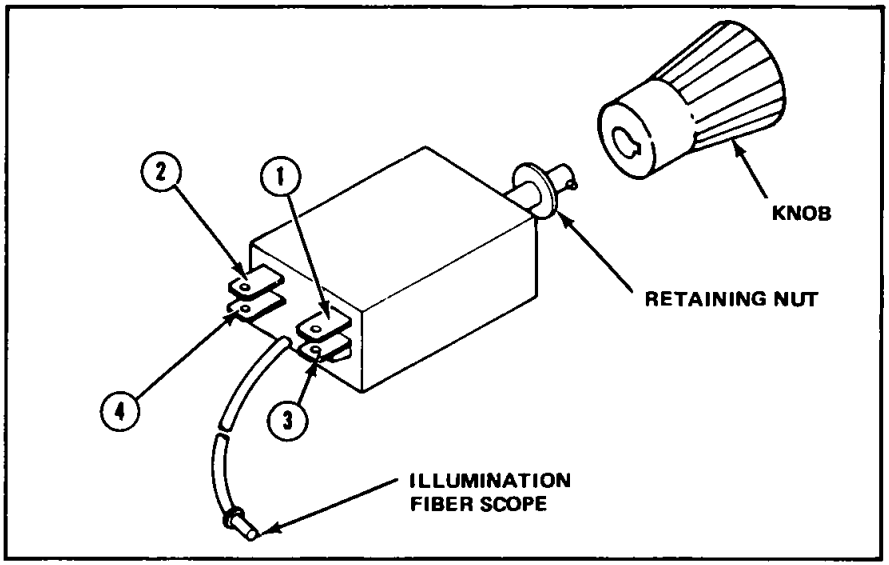


Fig 91 Lighting switch – Model 710

Model 710

1 Disconnect the battery ground cable
2 Depress the switch knob and turn it counterclockwise Remove it from the switch assembly, Fig 91
3 Unscrew the retaining nut
4 Reach up under the instrument panel and disconnect the light switch wiring connector and illumination fiber scope Remove the switch

Installation is the reverse of removal

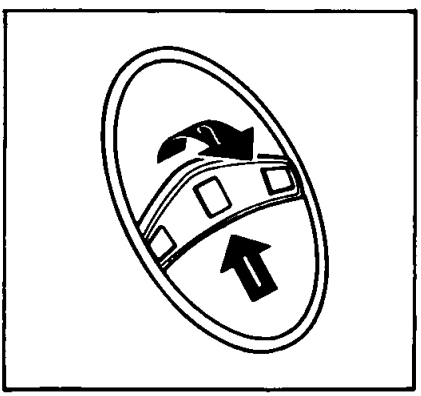


Fig 92 Removing horn pad

TURN SIGNAL SWITCH REPLACEMENT

1 Disconnect the battery ground cable
2 Remove the steering wheel
- Disconnect the horn wiring
- Remove the horn pad Two-spoke type slide the horn pad upward and then pull out, Fig 92 Three-spoke type simply pull out

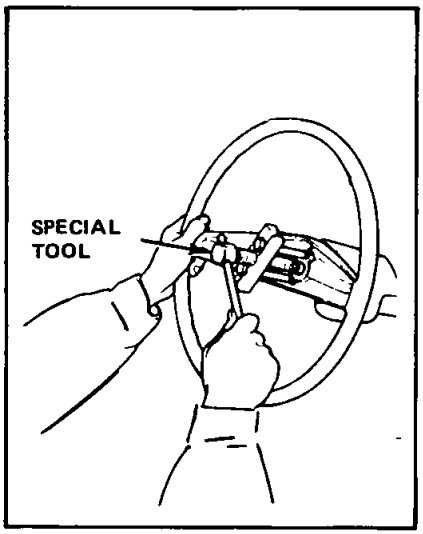


Fig 93 Removing steering wheel

3 Remove the steering wheel nut
4 Using the appropriate tool, remove the steering wheel, Fig 93
5 Remove the upper and lower steering column shell covers
6 Disconnect the combination switch at connectors, Fig 94
7 Loosen the retaining screws and remove combination switch assembly
8 Reverse the above steps for installation, and in addition
- Apply grease to all sliding portions of the steering wheel assembly
- Install the steering wheel-to-column shaft in a straight-ahead position Tighten the steering wheel firmly

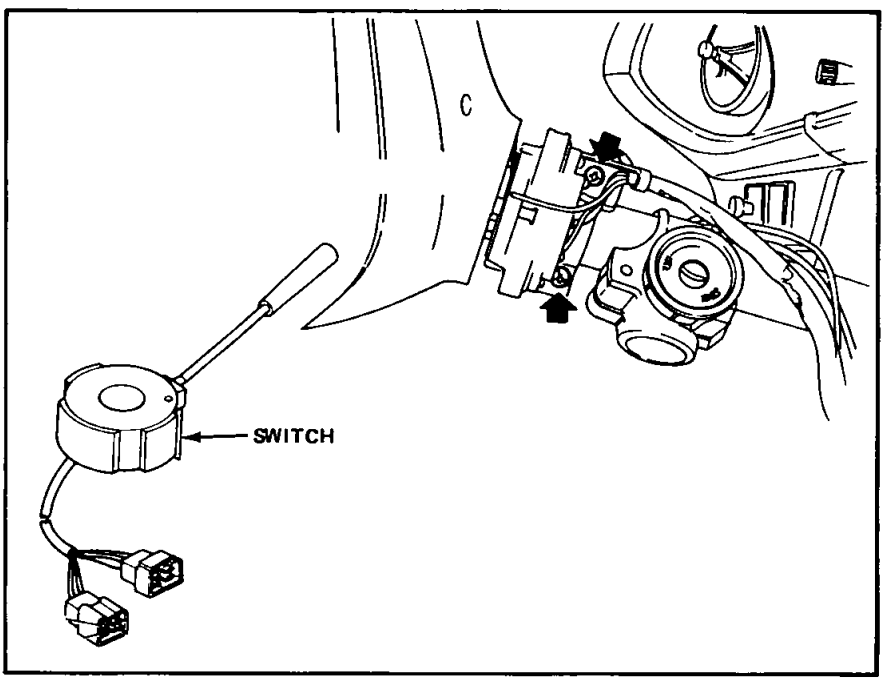


Fig. 94 Turn signal switch (typical)

STOPLIGHT SWITCH REPLACEMENT

1 Disconnect the lead wires at connectors, Fig 95
2 Loosen the locknut The switch assembly can now be taken out by rotating the switch
3 To adjust the switch, position it closer for earlier activation of stop lights, position farther away for later activation of stop lights Installation is the reverse of removal

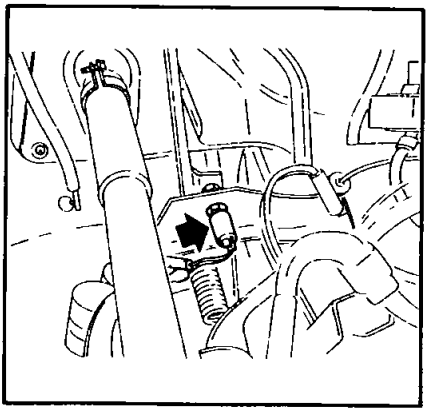


Fig 95 Stoplight switch

IGNITION SWITCH REPLACEMENT

1 Disconnect the battery ground cable
2 Remove the shell covers and disconnect the lead wires at connectors
3 Remove the switch retaining screw from behind the steering lock Switch assembly can now be removed, Fig 96 Install the new switch by reversing the above steps

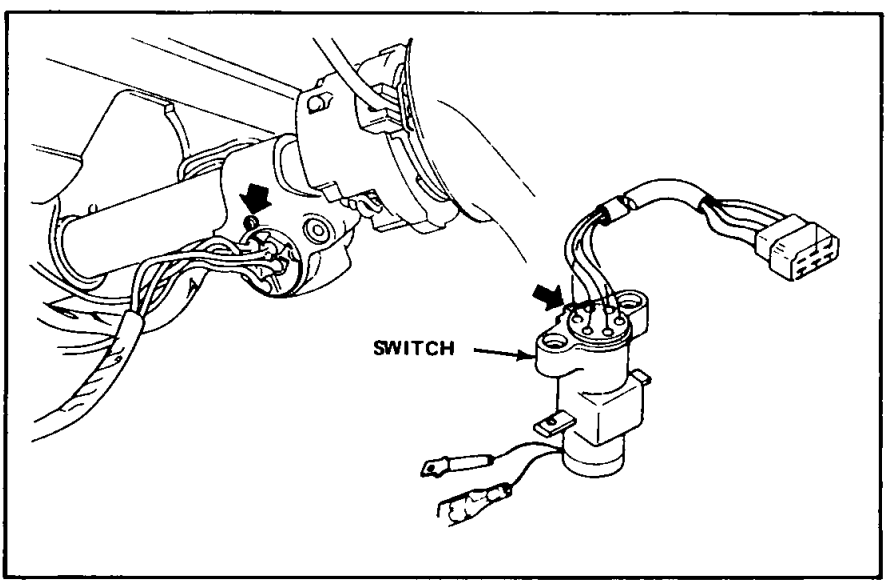


Fig 96 Ignition switch (typical)

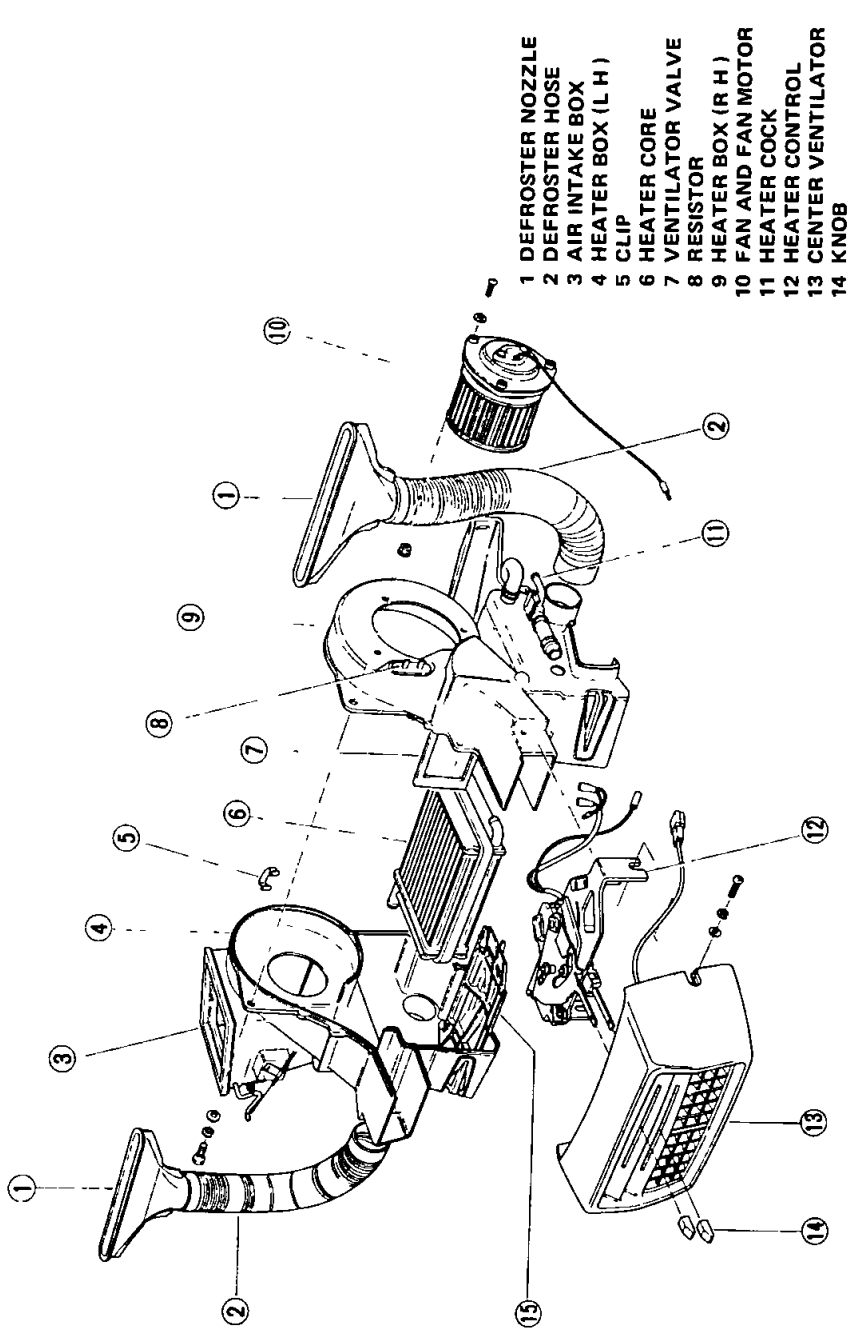


Fig 97 Heater system – Model B210

HEATER

If your heater isn't generating enough warm air to keep you comfortable in cold weather, it may be necessary to replace one or more of the system components

Although it may take some time to make heater repairs, the procedures are basically simple

You can easily make heater repairs and save money

When working on the heater system, figure most of the day for a relaxed, comfortable job

Model B210

Heater Motor and Heater Core Replacement

1 Remove heater control as follows, Fig 97
   - Drain all coolant from the engine
   - Remove the small screws securing control knobs on control levers and remove both knobs
   - Remove screw on each side of the center ventilator Remove the ventilator
   - Disconnect the lead wires from the fan switch at the fan motor and the resistor on the heater unit
   - Remove the clips and disconnect the control wires and the rod at the heater cock, air intake valve, heat valve and ventilator valve, Fig 98
   - Remove the heater control from the heater unit
2 Disconnect the heater hose from the heater cock by removing the clips

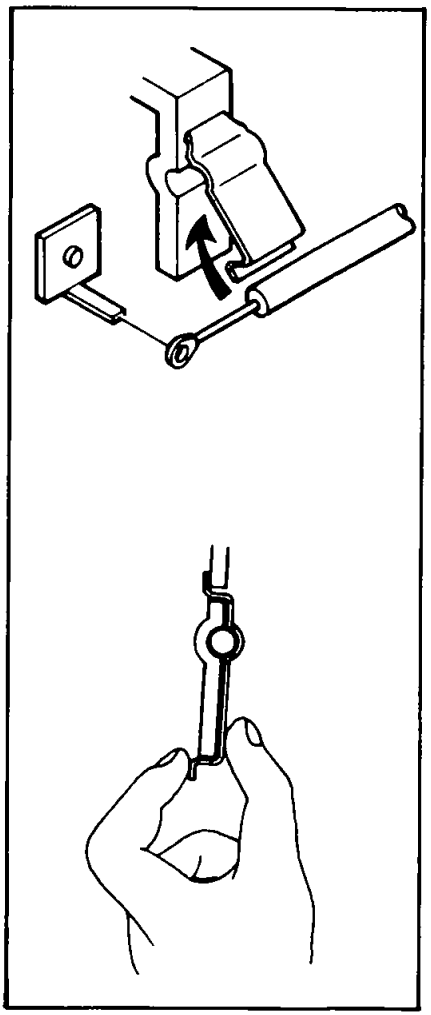


Fig 98 Removing clips – Model B210

3 Remove the clips securing left and right side of the heater box to body These clips are easily removed with a screwdriver
4 Separate the heater box into two pieces
5 Remove the heater core and heat valve

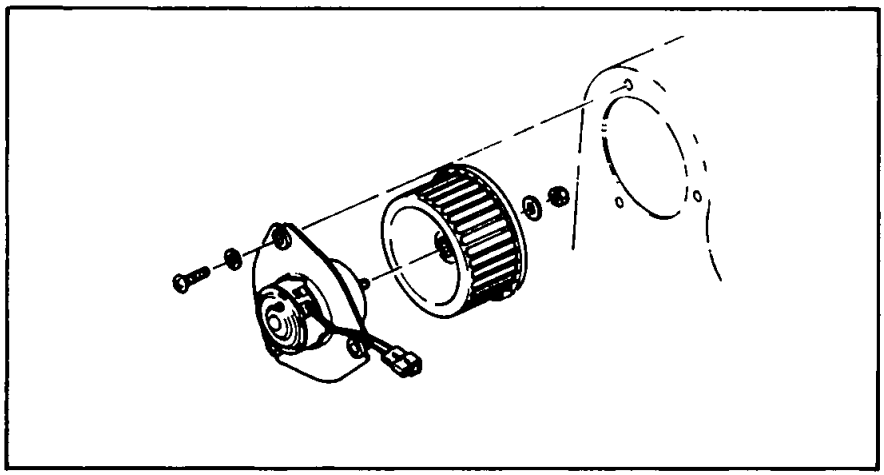


Fig 99 Fan and fan motor – Model B210

6 Remove the ventilator valve return spring
7 Loosen and remove the nut securing the fan to the fan motor Now remove the fan
8 Remove three screws securing the fan motor to the heater box and remove the fan motor, Fig 99

Installation is the reverse of removal

Heater Control Adjustment

Whenever a new or rebuilt unit is installed, adjust the heater control as follows

1 Move the upper lever to OFF position Fit the cable to the door lever of the air intake valve and center ventilator valve and fasten them with cable retaining clips
2 Move the upper lever to DEF position Fit the cable to the door lever of heat valve and fasten with a cable retaining clamp
3 Move the lower lever to the COLD position Fit the cable to the heater cock and fasten with the cable retaining clamp

NOTE: Make sure each control lever operates smoothly

Model 610

Heater Motor Replacement

1 Drain the engine coolant
2 Remove the hose clamps and disconnect inlet and outlet hoses, Fig 100
3 Remove the center ventilator (and center console if so equipped)
4 Remove the heater duct hose
5 Remove the demister hose from each side of heater unit
6 Remove the cable retaining clamps for the air mix door, mode door and defroster door Disconnect the cables from door control levers
7 Disconnect the lead wires

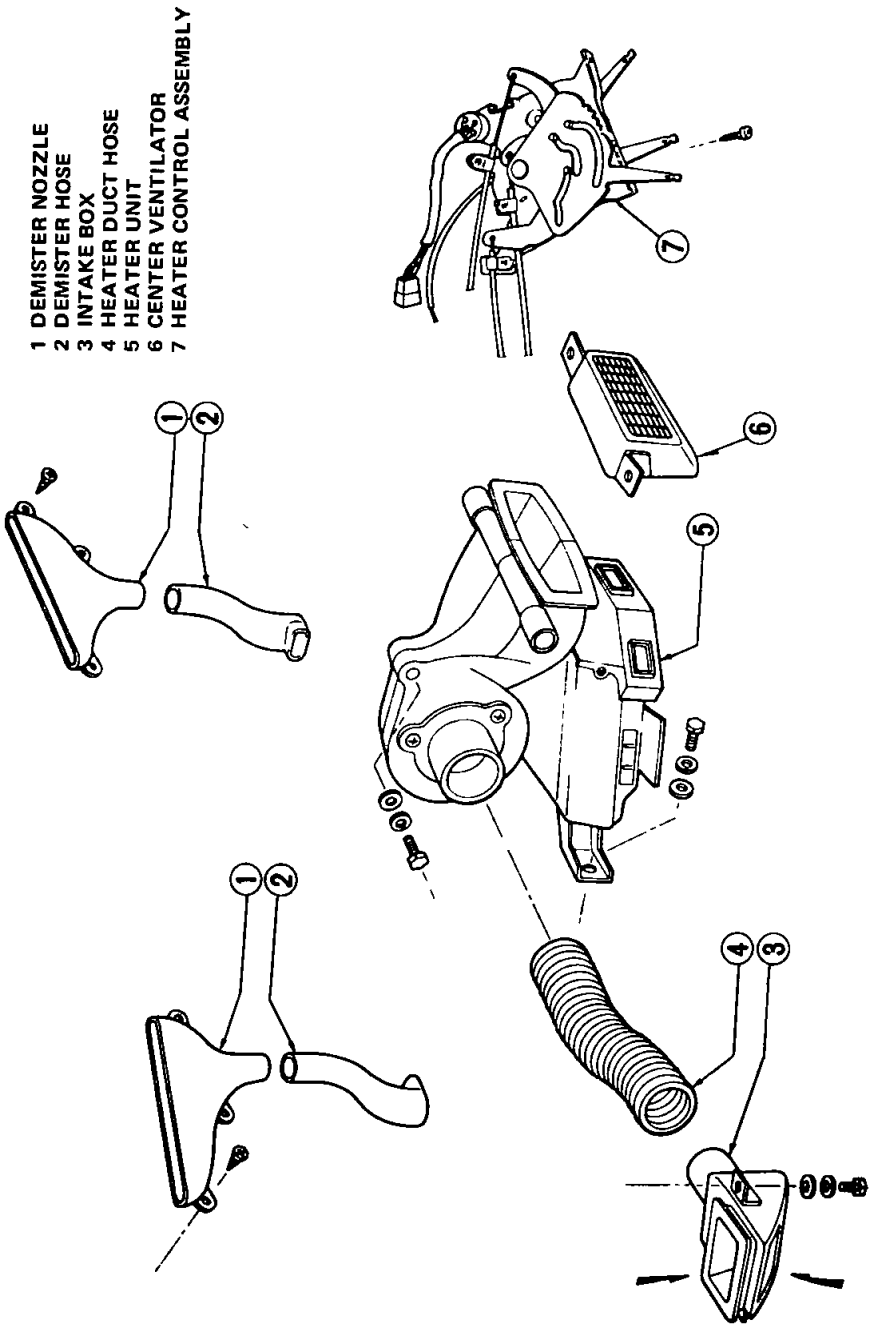


Fig 100 Heater system – Model 610

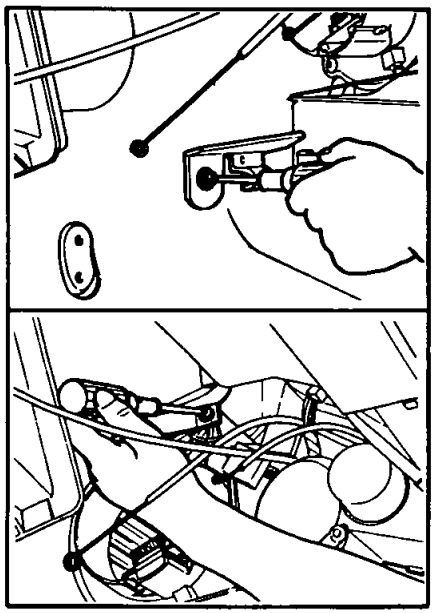


Fig 101 Heater unit bolt locations

8 Remove the three bolts (one on each side of heater and one on top of unit), Fig 101
9 Remove the heater unit
10 Remove retaining screws that hold heater motor to heater unit Now remove the heater motor

Installation is reverse of removal

Heater Core Replacement

1 Drain the engine coolant
2 Remove the hose clamps and disconnect the inlet and outlet hoses from the heater unit
3 Disconnect the control cables on the sides of the heater unit
4 Remove the clips and remove the grille heater box

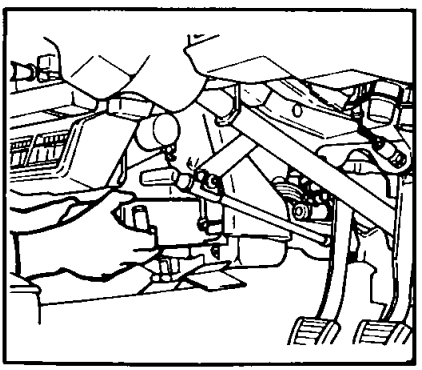


Fig 102 Removing heater core – Model 610

5 Remove the heater core, Fig 102

Reverse the above procedures to install heater core

Model 710

Fan Motor Replacement

1 Remove the three screws retaining fan motor

2 Remove the screw retaining fan motor connector

3 Remove the fan from vehicle

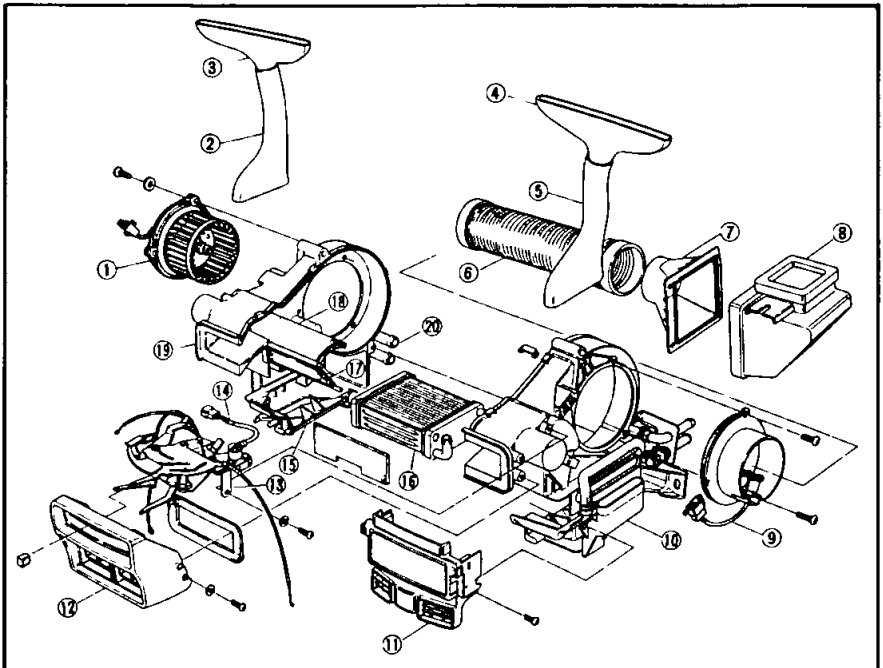
Installation is reverse of removal

Heater Core Replacement

1 Drain the engine coolant

2 Remove the clamps from the heater core and disconnect the heater hose from the heater core The clamps and heater hose are on the right side of the heater unit

3 Remove the two clips and four screws securing the heating unit grille and remove heating unit, Fig 103



1 FAN AND FAN MOTOR
2 DEFROSTER DUCT (L H)
3 DEFROSTER NOZZLE (L H)
4 DEFROSTER NOZZLE (R H)
5 DEFROSTER DUCT (R H)
6 INTAKE DUCT HOSE
7 AIR INTAKE DUCT
8 AIR INTAKE HOUSING
9 RESISTOR
10 HEATER BOX (R H)
11 HEATING UNIT GRILLE
12 CENTER VENTILATOR
13 HEATER CONTROL
14 FAN SWITCH
15 DEFROSTER DOOR
16 HEATER CORE
17 AIR MIX DOOR
18 MODE DOOR
19 HEATER BOX (L H)
20 HEATER COCK

Fig 103 Heater system – Model 710

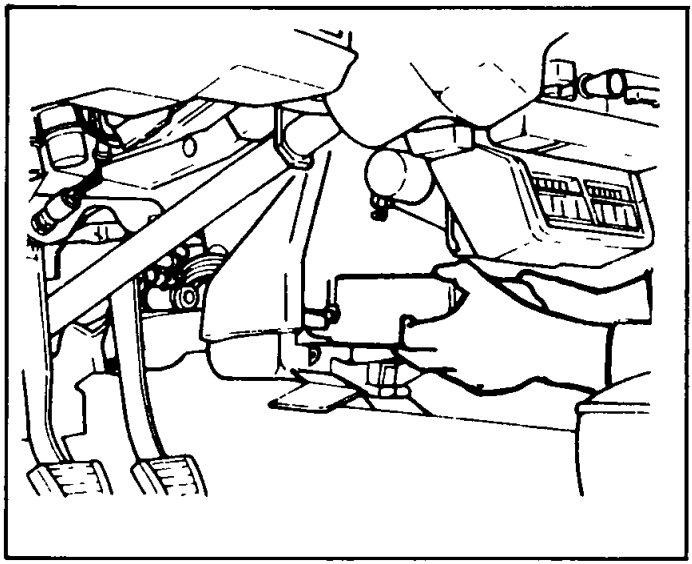


Fig 104 Removing heater core – Model 710

4 Remove the console, if so equipped
5 Loosen the clips on the control cable for the defroster
6 Pull the heater core forward and remove, Fig 104

Installation is the reverse of removal

FUSE REPLACEMENT

Should an electrical circuit stop working, it is a good bet that a fuse has blown in your Datsun

Fuses for electrical systems are arranged together in one central fuse panel located under the instrument panel

To check a fuse, remove and examine it to see if the thin wire inside the glass tube is broken Sometimes the glass will appear blackened which also indicates that the fuse is blown If you are not sure if the fuse is blown, try another one of equal size and amperage It is a good idea to carry extra fuses of the size that protects your outside lights and windshield wipers

To replace a fuse, simply remove the blown fuse from the fuse panel and replace it with one of the same type and amperage

LIGHT BULB REPLACEMENT

If a light bulb burns out, simply remove it and replace with one of the same type The following charts can serve as a guide for light bulb replacement

DATSUN B210 BULB CHART

Item	Specifications		
	Wattage		SAE Trade Number
Headlight	12V-50/40		6012
Front Combination light Parking/Turn	8/23		1034
Side Marker Light Front	8		67
Rear	8		67
Rear Combination Light	Sedan	Coupe	
Turn Signal	23	23	1073
Tail/Stop	8/23, 8	(8/23) x 2	1034, 67
Back-Up	23	23	1073
License Plate Light	7 5		89
Interior Light	10		—
Instrument Panel			
Warning or Indicator Light	3 4		158
Illumination Light	3 4		158

1973 DATSUN 610 BULB CHART

Item	Wattage		SAE Trade Number
Headlight			
Outer Unit	50/37 5		4002
Inner Unit	37 5		4001
Front Combination Lamp			
Turn Signal/Parking Lamp	27/8 3	(32/3)	1157
Side Marker Lamp	8	(4)	67
Rear Combination Lamp			
Stop/Tail Lamp	27/8 3	(32/3)	1157
Turn Signal Lamp	27	(32)	1156
Back-Up Lamp	27	(32)*	1156
License Lamp	7 5	(6)	89
Interior Lights			
Front Lamp	10	(–)	—
Rear Lamp (Station Wagon)	10	(–)	—
Trunk Lamp	10	(–)	—

*In case of Hardtop, the back-up lamp is independently located in the center of the rear panel

1973 DATSUN 610 BULB CHART (Continued)

Item	Wattage		SAE Trade Number
Instrument Panel Lights			
Gauge Lamps	3 4	(2C)	158
Turn Signal Indicators	3 4	(2C)	158
Warning Lights	3 4	(2C)	158
Light Switch, Wiper Washer Switch Knob	3 4	(2C)	158
Heater Control Illumination	3 4	(2C)	158

*In case of Hardtop, the back-up lamp is independently located in the center of the rear panel

1974-76 DATSUN 610 BULB CHART

Item	Wattage		SAE Trade Number	Remarks
Headlight				
High/Low	37 5/50		4002	Double Filament
High	37 5		4001	
Front Combination Light				
Turn/Clearance	27/8		1157	Double Filament
Side Marker Light				
Front	8		0067	
Rear	8		0067	
License Light	8		0067	
Rear Combination Light	Sedan	H/T		
Turn/Tail	27/8	—	1157	
Stop	27	—	1156	
Back-Up	27	27	1156	
Turn	—	27	1156	
Stop/Tail	—	27/8	1157	

H/T = Hardtop Models

1974-76 DATSUN 610 BULB CHART (Continued)

Item	Wattage	SAE Trade Number	Remarks
Interior Light	5	—	
Knob Illumination Light	3 4	0158	
Automatic Transmission Indicator Light	3 4	0 58	
Glove Box Light	3 4	0158	
Heater Control Illumination 1, Light	3 4	0158	
Seat Belt Warning Light	34	0158	
Defogger Pilot Light	34	0158	

DATSUN 710 BULB CHART

Item	Wattage	SAE Trade Number	Remarks
Headlight			
Outer Main/Dim	37 5/50W	4002	Double Filament
Inner Main	37 5W	4001	
Front Combination Light			
Turn/Park	27/8.3W	1157	Double Filament
Side Marker Light	8W	67	
License Light	7 5W	89	
Rear Combination Light			
Turn	27W	1156	
Back-Up	27W	1156	
Stop/Tail	27W/8 3W	1157	Hardtop and Station Wagon Sedan
Tail	10W	—	Hardtop Only
Interior Light	10W	—	
Knob Illumination Light	3 4W	158	
Automatic Transmission Indicator Light	3 4W	158	A/T Only

A/T = Automatic Transmission

Cooling System

Earlier in this book, we provided the help necessary in caring for the hoses, belts, thermostat and coolant in the system In this section, we will help you to remove the radiator, which may be leaking or blocked, so you can take it to a radiator repair shop for necessary repairs We will also help you remove the water pump, in the event yours has failed, is leaky or noisy Allow about one hour and a half for either job

RADIATOR REPLACEMENT

1 Drain the coolant into a clean container
2 Disconnect the radiator upper and lower hoses On models with automatic transmission, disconnect the cooler inlet and outlet lines from the radiator
3 Remove the fan shroud retaining bolts and remove the fan shroud
4 Remove the front grille on 610 and 710 models
5 Remove the radiator retaining bolts, and then remove the radiator upward and out from car

Installation is the reverse of removal

WATER PUMP REPLACEMENT

Model B210

To Remove

1 Drain the coolant into a clean container
2 Loosen the bolts securing the fan shroud and remove the shroud on models so equipped
3 Loosen the belt, then remove fan blade, fan spacer and pulley from hub
4 Remove pump assembly and gasket from the front cover, Fig 105

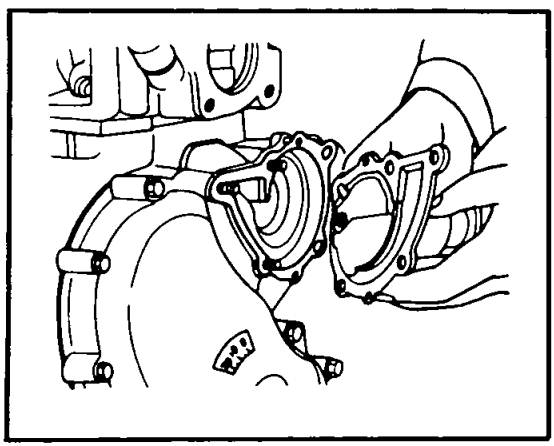


Fig 105 Removing water pump – Model B210

Inspection

Inspect the pump assembly for following conditions and replace the pump if necessary

- Badly rusted or corroded body assembly and vane
- Excessive end play or bearing roughness when operating

To Install

1 Clean the gasket surfaces in contact with the pump and front cover Always use new gaskets when installing the water pump assembly
2 Position the pump, install bolts and tighten bolts securely, alternating from side to side so as not to warp the housing and cause leakage
3 Fill the cooling system and check for leaks at pump
4 Install the fan pulley, spacer and fan blade, and tighten attaching bolts securely Install the belt and adjust tension
5 Start the engine and check for leaks again
6 Stop the engine and install the fan shroud, on models so equipped

MODELS 610 AND 710

To Remove

1 Drain the coolant into a clean container
2 Loosen the bolts attaching the fan shroud to the radiator and remove the shroud
3 Loosen the bolts securing the fan blade to torque coupling and remove the fan blade
4 Loosen the drive belt by loosening the bolt securing the alternator to the bracket
5 Remove the bolts securing water pump assembly to engine front cover and remove the water pump assembly and gasket from engine front cover, Fig 106

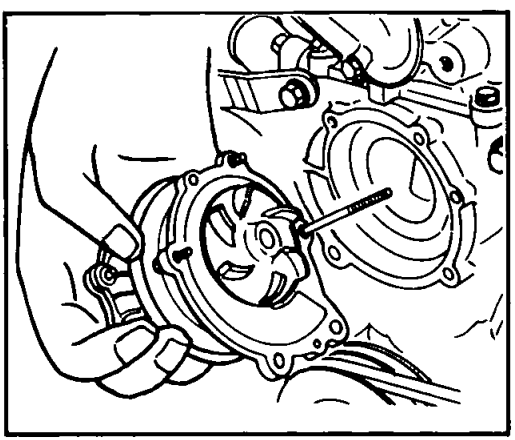


Fig 106 Removing water pump – Models 610 and 710

Inspection

Inspect the water pump assembly for the following Replace the pump assembly if necessary

- Badly rusted or corroded body assembly and vane
- Excessive end play or rough operation of bearings
- Deteriorated silicone oil, excessive slippage of torque coupling
- Oil leakage in torque coupling

To Install

1 Clean gasket surfaces on the pump and front cover Always use a new gasket when installing pump assembly

2 Position the water pump on the engine, install bolts and tighten bolts uniformly

3 Fill the cooling system and check for leaks at pump

4 Install the fan blade and tighten the bolts securely

5 Install the belt and adjust the tension

6 Start the engine and check for leaks again

7 Stop the engine and install fan shroud

Brakes

Before performing any brake work on your car, examine the back side of the wheels to see if there is any evidence of hydraulic fluid leakage If the back sides of the wheels are wet from hydraulic fluid leakage, we suggest you take your car to a professional mechanic who is skilled in these repairs This is also true if pulling a wheel or drum reveals leakage If no leakage is evident, then you can proceed with the brake shoe or brake pad replacement When replacing these items, disassemble one side at a time so that you can refer to other side for proper installation of parts

If your brake rotors or drums are scored, they should be taken to an automotive machine shop to be refinished before installation

Generally, if you are replacing pads or shoes, you can complete the fronts or rears in half a day Allow extra time for any trip to the machine shop or parts store

FRONT WHEEL DISC BRAKE PAD REPLACEMENT

Models B210 and 610

If you have noticed that your brake pedal must be pushed closer to the floor than usual, or if you have been hearing a scraping, screeching noise coming from the front when you apply the brakes, chances are the pads are worn and the rivets are scraping against the brake disc

Continued use in this condition will only lead to a more expensive brake job requiring brake discs to be machined or replaced You should also check the master cylinder, under the hood, to see if the brake fluid level is low If there are no hydraulic system leaks, this would be a confirming sign of worn brake pads Plan to check the brake system immediately if any of these conditions are present

1 Raise the front of car and support it with safety stands Remove the front wheels
2 Remove the clips and pull out the pins, extracting coil spring and pad springs by hand, Fig 107
NOTE: Check to ensure that the pad springs rebound easily
3 Remove the pads from caliper assembly with pliers, Fig 108
NOTE. After removing the pads, do not depress the brake pedal since the piston will jump out
4 Clean and apply a suitable high-temperature, high-pressure grease on yoke guide groove of cylinder body, sliding contact portions of yoke and end surface of piston Do not use common brake grease Be careful not to get grease on brake pads
5 Loosen the air bleeder and **very carefully** push the outer piston into the cylinder until the end surface of piston coincides with end surface of retaining ring on boot Figs 109 and 110 Inner pad can now be installed

NOTE: The piston can be easily pushed in by hand, but if pushed too far, the groove of the piston will go inside of piston seal as shown in Fig 110 At this point, if piston is pressured or moved, piston seal will be damaged If piston has been pushed in too far, the

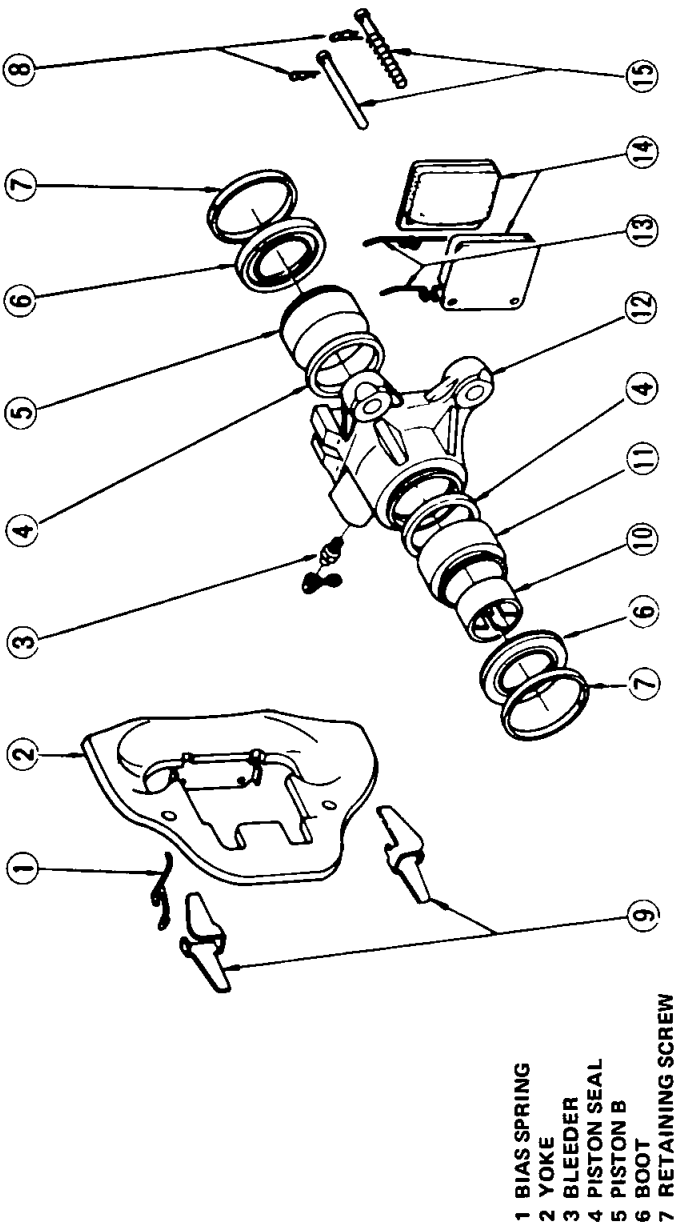


Fig 107 Front brake – Models B210 and 610

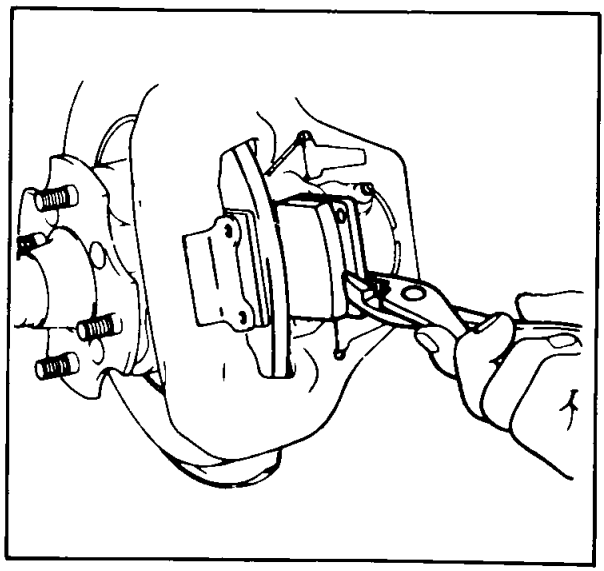


Fig 108 Removing or installing brake pad – Models B210 and 610

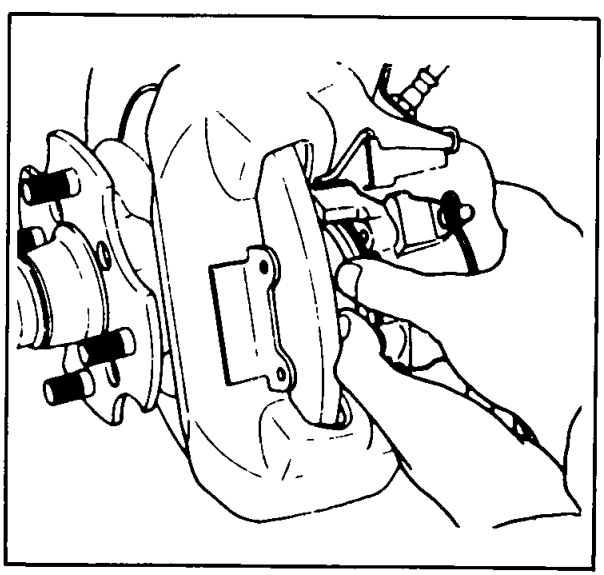


Fig 109 *Pushing outer piston – Models B210 & 610*

brake assembly will have to be removed and dissassembled by a qualified repair shop So be careful

6 Push the inner piston into the cylinder by pulling the yoke, Fig 111 Now the outer pad can be installed

7 After installing the pads, depress the brake pedal several times so pad will settle into proper position

NOTE: When worn out pads are replaced with new ones, the brake fluid may overflow the reservoir While replacing pads, keep loosening bleeder to release brake fluid

8 Install the wheels and lower the car to the ground

9 Check the brake fluid level in the master cylinder

Model 710

1 Raise the front of the car, place it on safety stands and remove the wheels
2 Push the upper portion of the clip to release clip, Fig 112, and insert a screwdriver into back of pad on opposite side of piston Remove caliper plate, Fig 113, to extreme outer end
3 Remove the pads
4 Clean the pad parts and calipers Be careful not to get oil on rotor or pads
5 Depress the pistons into the cylinders so that new pads can be installed

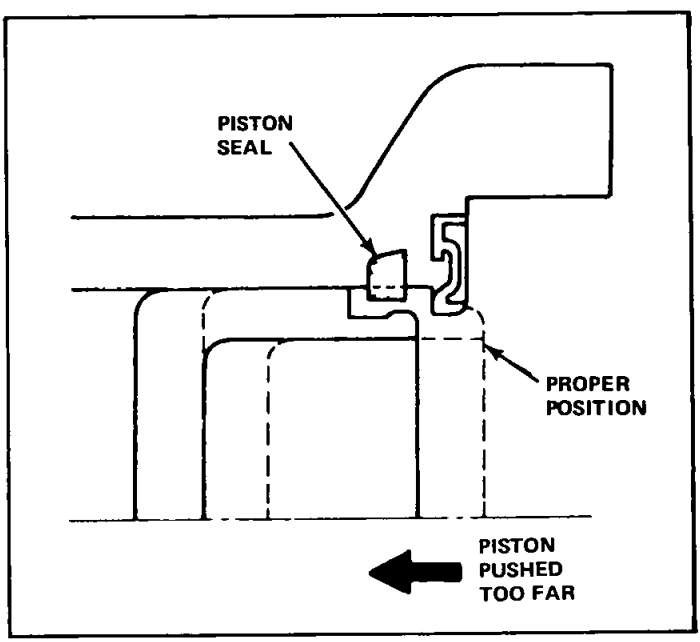


Fig 110 Position for piston – Models B210 and 610

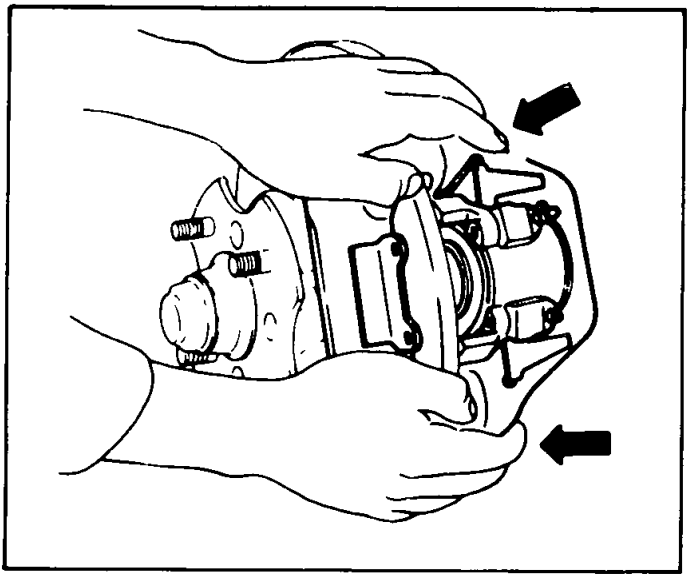


Fig 111 Pulling inner piston – Models B210 and 610

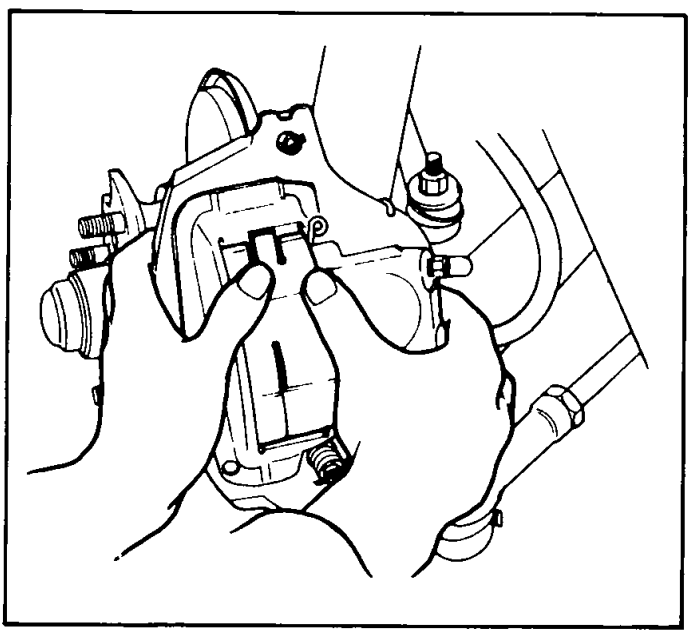


Fig 112 Removing clip – Model 710

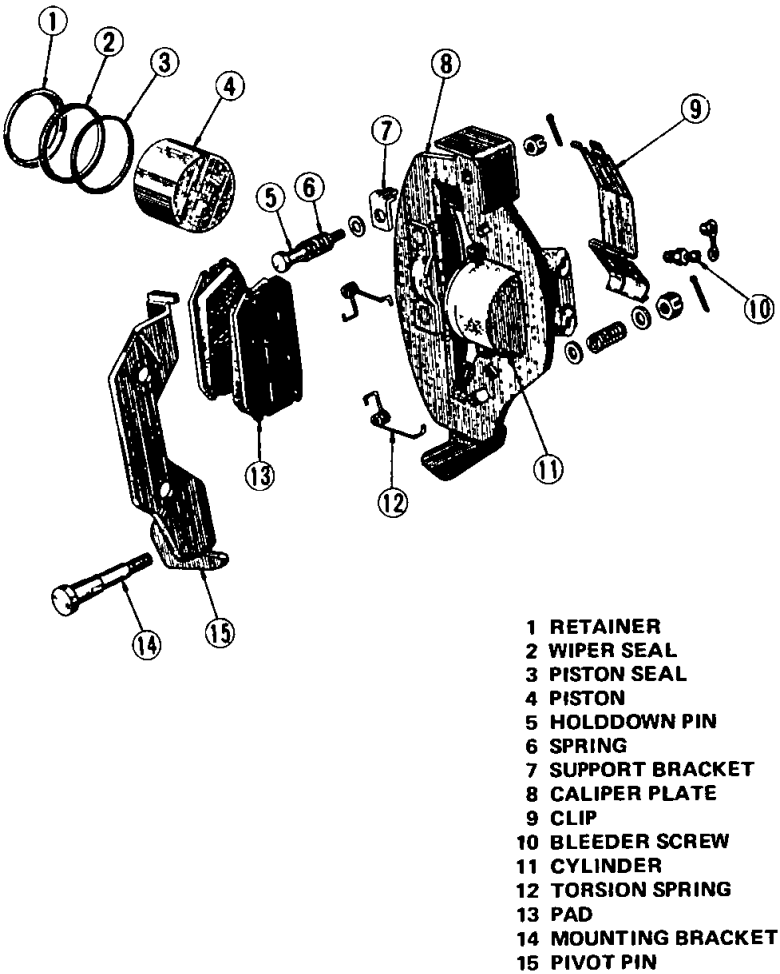


Fig 113 Front brake – Model 710

NOTE: When worn pads are replaced with new ones, brake fluid may overflow the reservoir While replacing pads keep loosening bleeder to release brake fluid

6 Install the pads, shims and clips

7 After installing the pads, depress brake pedal several times to settle the pads into proper position

8 Replace the wheels, hubs and lower car

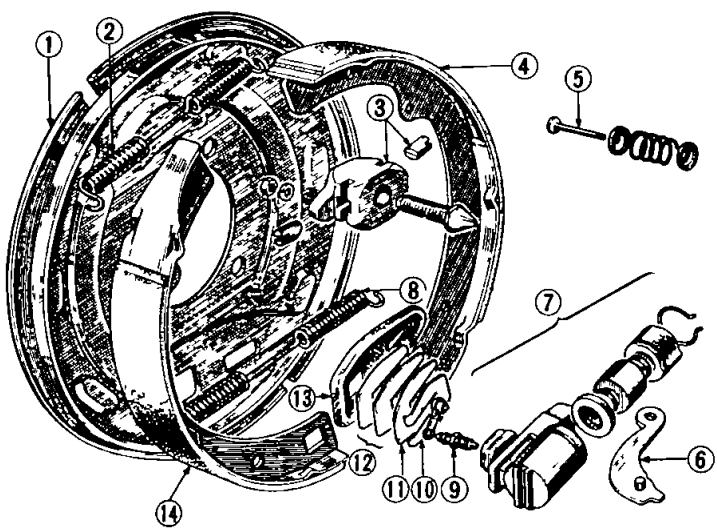
9 Check the brake fluid level in the master cylinder

REAR DRUM BRAKE SHOES REPLACEMENT

If the parking brake fails to hold the car when applied, or if the rear wheels are noisy during braking, the possibility exists that the brake shoes are worn to the point of replacement If the shoes are worn to within 0 8 mm (1/32 in) of the rivet heads, they should be replaced Further operation in this condition will lead to serious scoring of the drums and make it necessary for them to be machined Here's how to replace the shoes

1 Raise rear of car and place on safety stands
2 Remove tire and wheel assembly
3 Remove brake drum If drum is hard to remove, use 8 mm (5/16 in) diameter bolts to drive drum out
4 Turn pin 90° and remove anti-rattle springs, Fig 114
5 Remove return springs and brake shoes

Installation is the reverse of removal



1 BACKING PLATE
2 RETURN SPRING ADJUSTER SIDE
3 BRAKE SHOE ADJUSTER
4 BRAKE SHOE ASSEMBLY
5 ANTI-RATTLE PIN
6 WHEEL CYLINDER LEVER
7 REAR WHEEL CYLINDER
8 RETURN SPRING CYLINDER SIDE
9 BLEEDER
10 LOCK PLATE A
11 LOCK PLATE B
12 LOCK PLATE C AND D
13 DUST COVER

Fig 114 Rear brake – All models

FRONT WHEEL BEARING ADJUSTMENT

After brake service or if looseness exists, the front wheel bearing needs adjustment Improperly adjusted wheel bearings cause abnormal wear and may score the bearings and knuckle spindle

While adjusting wheel bearings is an easy job, you will need two tools a torque wrench and a spring scale Have these tools ready before you start the job

It will also take about three hours to adjust both front wheel bearings

NOTE: To assure correct bearing preload and extend service life of wheel bearings, don't let dirt or other foreign matter get into bearings, grease seal or spindle nut

1 Raise and support the car on safety stands at the side member Remove the wheel, hub cover, brake pads and cotter pin

2 Tighten the spindle nut to specification, using a suitable torque wrench, Fig 115

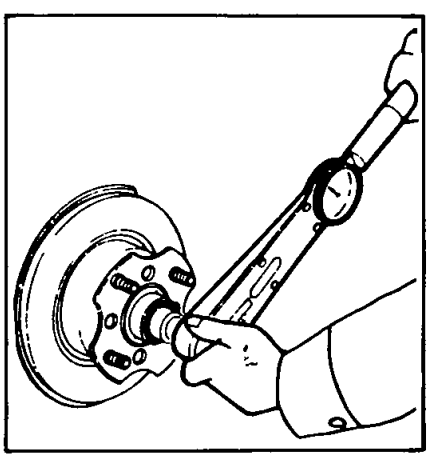


Fig 115 Tightening spindle

Tightening torques
Model B210 30-35 N•m (22-25 ft -lbs)
Models 610 & 710 25-30 N•m (18-22 ft -lbs)

3 Rotate wheel hub a few turns in both directions to seat wheel bearing properly Then retighten to the above torque

4 Loosen spindle nut 1/4 turn Install adjusting cap and tighten snug, until grooves are aligned with hole in spindle

5 Rotate wheel hub several turns in both directions to see if it rotates freely Then, measure bearing preload using a spring balance as follows, Fig 116

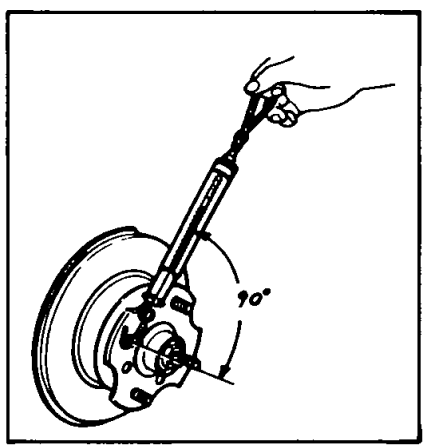


Fig 116 Measuring bearing preload

NOTE: Attach a spring scale to a hub bolt and pull it at right angles to a line drawn through center of the bearing and hub bolt to which it is attached Also, there should not be any shaft end play

Model B210

New parts As measured at wheel hub bolt
1 2 kg (2 6 lb) or less

Old parts As measured at wheel hub bolt
0 7 kg (1 5 lb)

Model 610 & 710

New parts As measured at wheel hub bolt
1 49 kg (3 3 lb) or less

Old parts As measured at wheel hub bolt
0 79 kb (1 7 lbs)

Repeat the above procedures until correct preload is obtained

6 Insert a new cotter pin through adjusting cap and spindle Spread cotter pin against sides of adjusting cap to secure the installation
7 Install the hub, replace the wheel and lower the car

PARKING BRAKE ADJUSTMENT

If the parking brake fails to hold the car, it should be adjusted as follows

If this adjustment does not correct the condition, check the rear brake shoes for excessive wear If the brake shoes check out all right, the parking brake cable will most likely have to be replaced Allow about half an hour to adjust the parking brake

Model B210

1 Raise the car and support it with safety stands to gain access to turnbuckle, Fig 117
2 Loosen the locknut and adjust parking brake tension by turning the turnbuckle to take up slack

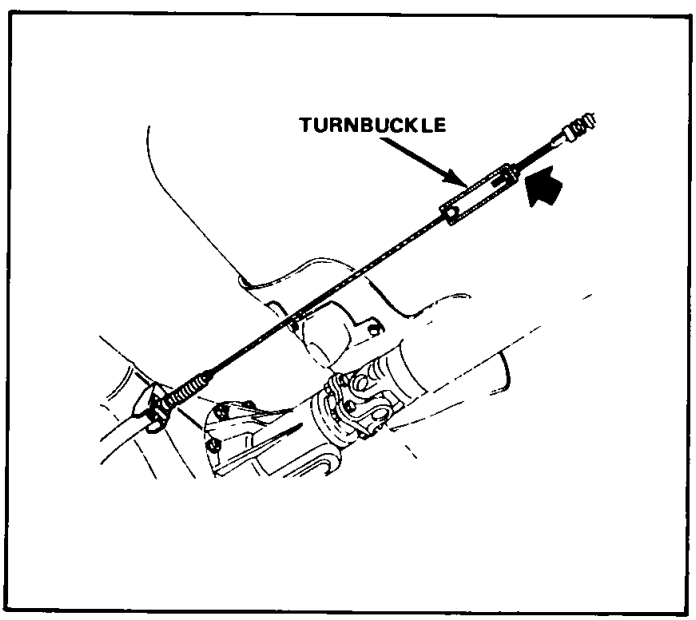


Fig 117 Parking brake turnbuckle – Model B210

3 Take up slack with the turnbuckle until the proper amount of resistance is felt in the brake control lever in the passenger compartment

4 Tighten the locknut on the turnbuckle

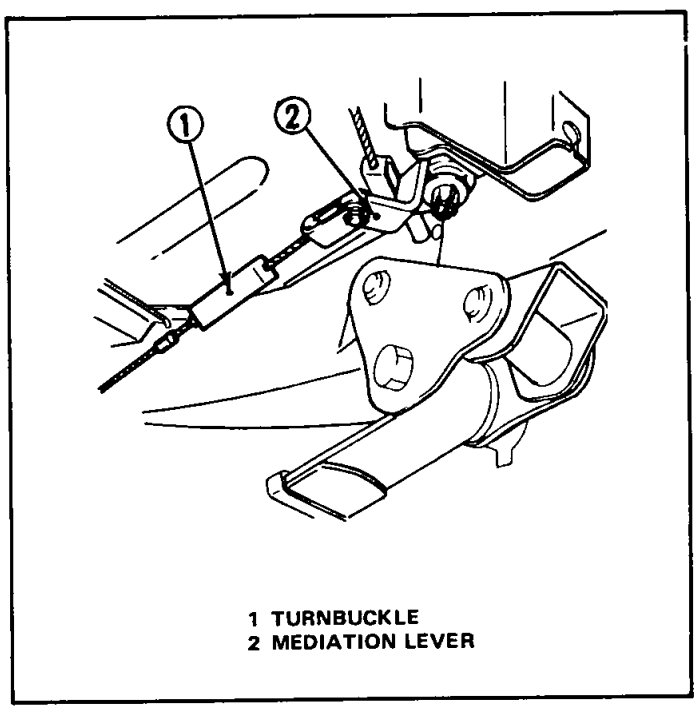
5 Road test the car If not satisfactory, repeat until the parking brake operates properly

Model 610

1 Raise the car and support it with safety stands to gain access to turnbuckle

2 Operate the parking brake lever and check to be sure lever operates through a range of 80-95 N•m (3 5-3 7 in) If lever operates outside this range, adjust parking brake cable tension as outlined in B210 procedures

3 *On station wagons,* after the cable tension adjustment has been made, be sure that the mediation lever, Fig 118, is properly returned to the original position when parking brake lever is released completely



1 TURNBUCKLE
2 MEDIATION LEVER

Fig 118 Adjusting parking brake – Model 610 station wagon

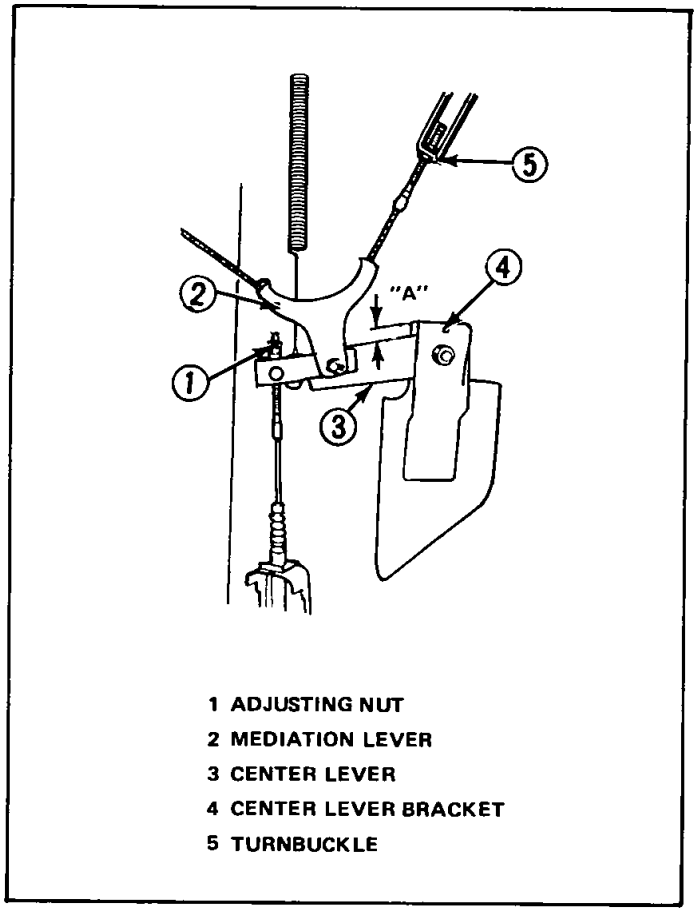


Fig 119 Adjusting parking brake – Model 610 sedan and hardtop

4 *On sedans and hard tops* clearance "A", Fig 119, should be 5 mm (0 197 in)

5 Make sure that the part indicated by the arrow in Fig 120 and 121 is returned to the original position when the parking brake lever is released

6 Road test the car Repeat if results are not satisfactory

Model 710

To adjust the parking brake on Datsun 710 models, use the procedures described above for 610 models

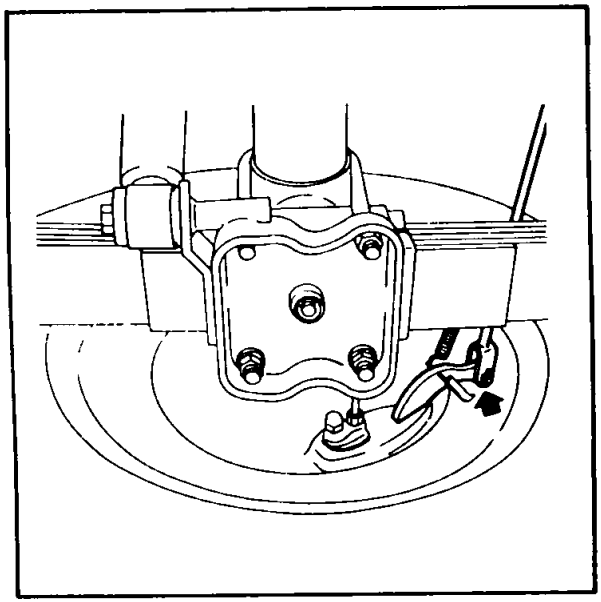


Fig 120 Adjusting parking brake – Model 610 station wagon

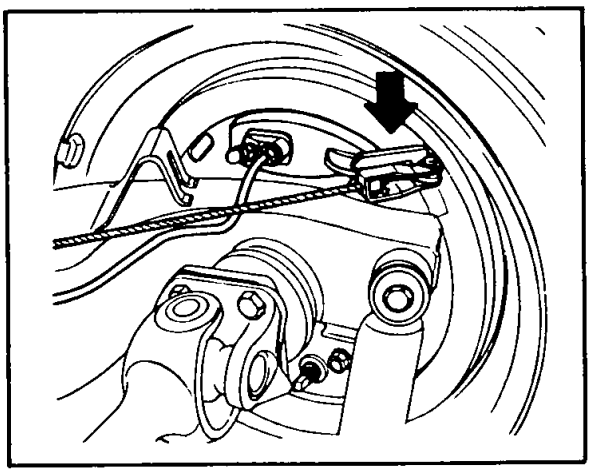


Fig 121 Adjusting parking brake – Model 610 sedan and hardtop

Suspension

The front suspension of all Datsun models covered in this book consists of a strut-type assembly in which the shock absorber and spindle are assembled in a single unit It is supported by a coil spring at the top and by a transverse link at the bottom The rear suspension consists of the more conventional shock absorber-type system

Properly acting shock absorbers and struts are important to safe driving They function to keep the tires in contact with the road and if they are worn, the wheels will hop on the road surface causing loss of steering and braking control This condition will also lead to cupped tires from the constant wheel hopping

You can perform a simple test on your shock absorbers and struts Merely push down on one of the front fenders as far down as you can push Without letting go, pull it upward as far as you can Continue this motion through several more cycles Release the car at the top of the cycle It should settle after moving to the bottom of the cycle and then part way up If the car continues to bounce, the shocks or struts are worn and should be replaced Perform this test at the remaining three corners of the car

The Datsun strut-type front suspension is a complicated system requiring the use of special tools and equipment for repairs or adjustments For this reason, we recommend you have any front suspension work done by a qualified shop

REAR SHOCK ABSORBER REPLACEMENT

Replacing rear shock absorbers is not difficult You may have to remove some trim panels to gain access to shock absorber mounting hardware, but again, this is relatively easy Just be careful about one thing never expose a shock absorber to direct flame, such as when heating corroded bolts to ease removal This may result in a very harmful explosion To replace shock absorbers

1 Raise the car and place safety stands under rear axle case on both sides of car Do not support the car by a component of the suspension that is connected to the spring
2 Disconnect the lower bolt or bolts
3 Remove the upper attaching bolt or bolts
4 Remove the shock absorber Installation is the reverse of removal Refer to Fig 122 for typical bolt locations

BALL JOINT REPLACEMENT

1 Raise the car and support it with safety stands Remove the wheel assembly
2 Pry the cotter pin off the side rod socket ball joint Remove castle nut and separate the side rod socket from the knuckle arm
3 Loosen the bolts holding knuckle arm in place Separate the knuckle arm from bottom end of strut

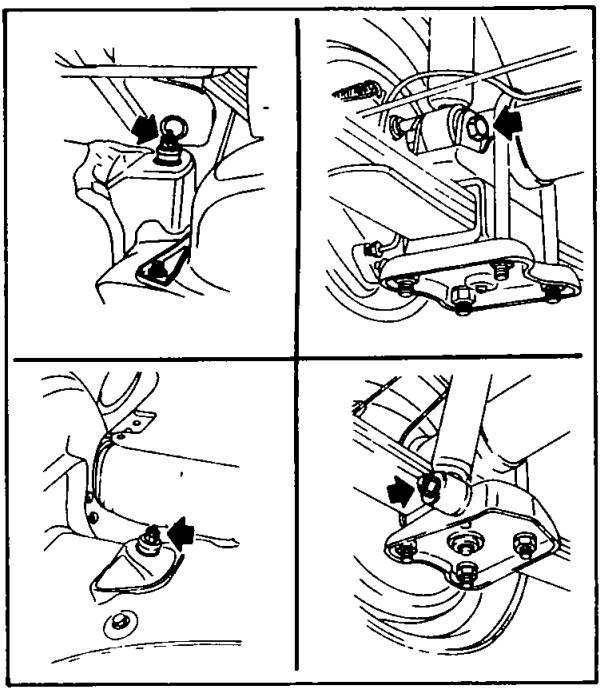


Fig 122 Typical shock absorber bolt locations

4 Separate the tension rod, connecting rod and stabilizer bar from transverse link, as follows
- Remove the splash board
- Refer to Fig 123 and back off nut "A" securing tension rod to bracket and remove bolts "B" which secure tension rod to transverse link The tension rod can now be taken out
- Remove nut "C" connecting the stabilizer connecting rod to the transverse link
- Take out bolts "D" securing the stabilizer bracket in position Loosen the tension rod bracket bolts "E" in advance Remove the stabilizer from car

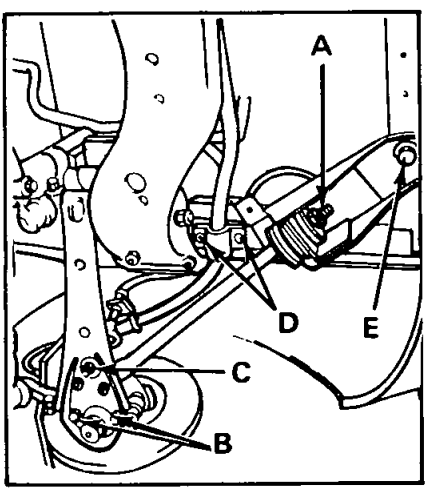


Fig 123 Removing stabilizer and tension rod

- Now, remove the bolt connecting the transverse link to the suspension crossmember after loosening nuts
- Remove the transverse link with suspension ball joint and knuckle arm, Fig 124

5 Place the transverse link in a vise, loosen the bolt securing the ball joint to the transverse link and remove the ball joint from the transverse link, Fig 125

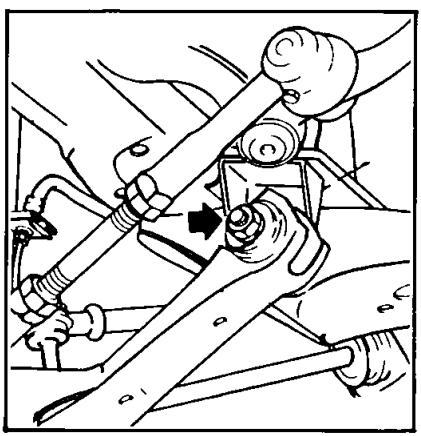


Fig 124 Removing transverse link

Installation is the reverse of removal with the following additional steps

1 To install the transverse link, first temporarily tighten the nuts securing pin assembly which is connecting the transverse link to the suspension crossmember Finally tighten the nuts when the car is off the stands and on the ground
2 Use the following torques
   - Ball joint socket 19-25 N•m (14-18 ft -lbs)
   - Tension rod fastening bolt 49-63 N•m (35-46 ft -lbs)

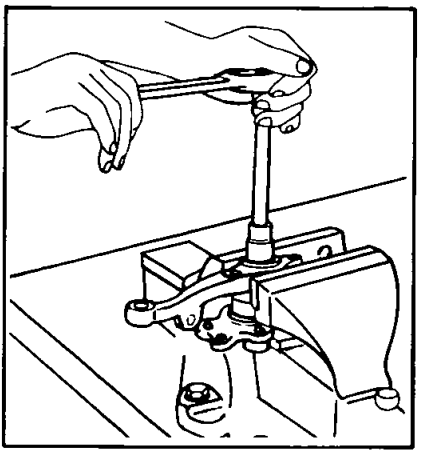


Fig 125 Removing ball joint

   - Ball joint castle nut 55-76 N•m (40-55 ft -lbs)
   - Transverse link connecting member nut 9-10 N•m (65-72 ft -lbs)
   - Knuckle arm connecting bolt 73-99 N•m (53-72 ft -lbs)

3 Be sure that the stabilizer is correctly installed on both ends
4 Install the stabilizer on the tension rod brackets and tighten the bolts If the stabilizer is correctly installed, the white mark painted on the stabilizer bushing seat can be seen from both sides of the car, Fig 126
5 Install the tension rod and connecting rod Make sure that body side bushing is in correct position, Fig 127
6 Be sure that the bolt attaching the tension rod bracket is correctly tightened
7 Do not tighten transverse-link-side bolt of tension rod without first tightening bolt securing rod to tension rod bracket

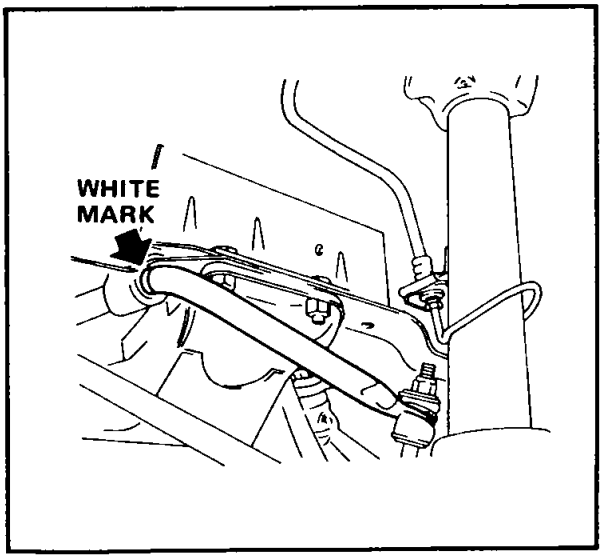


Fig 126 Stabilizer position

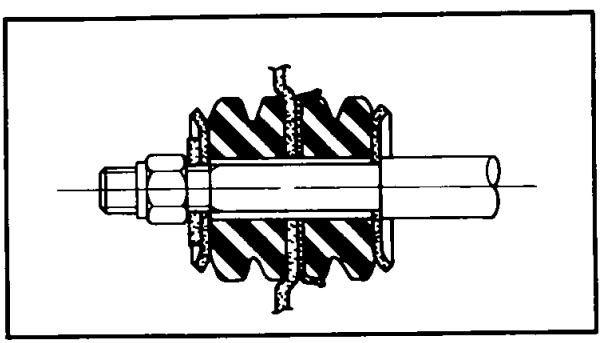


Fig 127 Installing tension rod bushing

8 Use the following torques
- Stabilizer bracket bolts 16-21 N•m (12-15 ft -lbs)
- Tension rod bracket bolts 32-43 N•m (23-31 ft -lbs)
- Tension rod installation nut 49-63 N•m (35-46 ft -lbs)
- Tension rod to transverse link bolts 22-30 N•m (16-22 ft -lbs)
- Connecting rod 12-17 N•m (9-12 ft -lbs)

Engine

Some of the procedures in this section are provided to help you through what might seem to be very difficult and time-consuming jobs Although they are not very difficult, they do take more time than most of the jobs presented elsewhere in this book But with the help of this book, you will be able to do these jobs and seize the opportunity to save hundreds of dollars

ENGINE MOUNT REPLACEMENT

The rubber portion of the engine mounts may become soft, cracked or even separated to the point that the engine is allowed to move farther than it should in its mountings This could cause stress on hoses or allow the fan to hit the radiator or its shroud

Your Datsun is equipped with three engine mounts — two located at the left and right front ends of the cyliner block and one at the transmission rear extension housing Be sure to keep the mount free of oil and grease as oil and grease can add to rapid deterioration of the mount You can replace these worn out or broken engine mounts Allow about two hours to replace the two front mounts and about 1-1/2 hours for the rear mount

FRONT ENGINE MOUNTS

1 Support the engine This can be done with either a chain fall or a jack With a jack, place a piece of wood (2x4 is OK) between the jack and oil pan of the car and raise car until there is firm contact, but the suspension has not begun to rise Secure with safe stands (with 2x4 on top) and remove jack Support with the chain fall, but do not raise the suspension
2 Loosen the front engine mounting insulator upper nuts on both sides of engine, Fig 128
3 Check to make sure that there is *no load* applied to the insulators Relocate engine support if there is If not, finish loosening nuts and remove them
4 Lift the engine up, reposition the jack stands (if used) and separate the mounting insulators from the engine mounting brackets
5 Note the position of the mounting insulators when removed and be sure to install them in the same position, Fig 129
6 Installation is the reverse procedure of removal Be sure to tighten all bolts securely

REAR ENGINE MOUNT

1 Support the transmission with a suitable jack or other device
2 Remove the rear engine mounting member installation bolts, Fig 128 Remove the damper from the rear engine mounting support, if so equipped
3 The engine mounting member is provided with openings for removing and installing operations Remove nuts and separate insulator from transmission

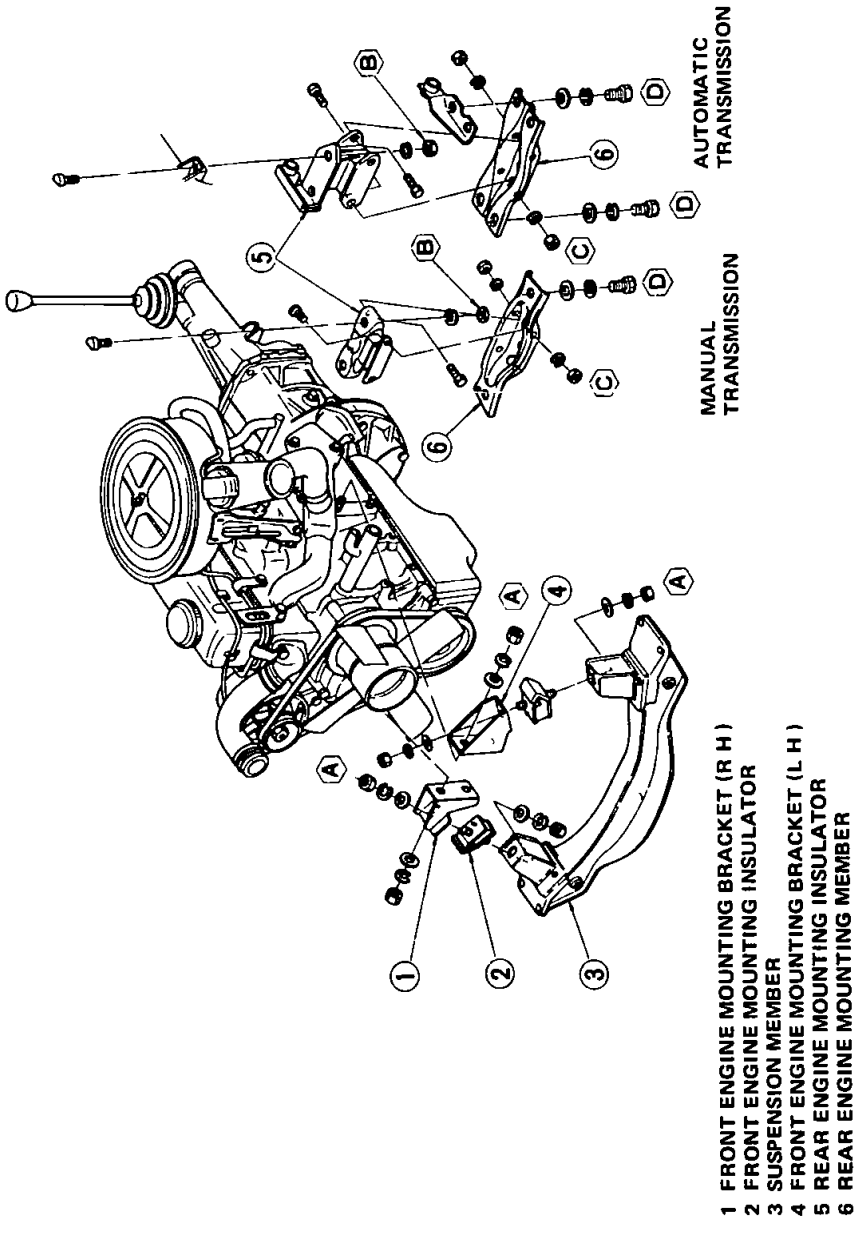

AUTOMATIC TRANSMISSION
MANUAL TRANSMISSION
1 FRONT ENGINE MOUNTING BRACKET (R H)
2 FRONT ENGINE MOUNTING INSULATOR
3 SUSPENSION MEMBER
4 FRONT ENGINE MOUNTING BRACKET (L H)
5 REAR ENGINE MOUNTING INSULATOR
6 REAR ENGINE MOUNTING MEMBER

Fig 128 Engine mounting (typical)

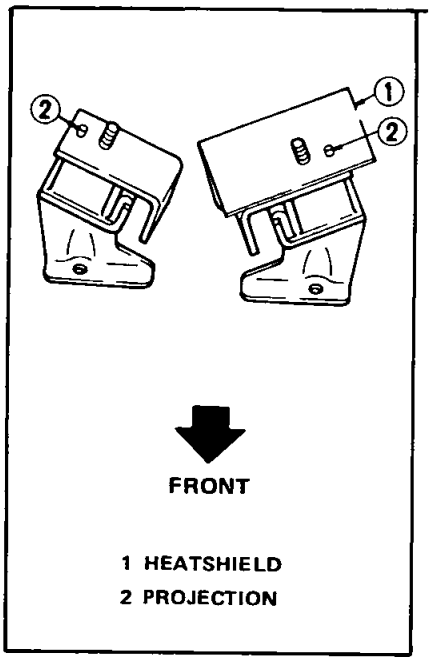


Fig 129 Typical front engine mount

4 Remove the bolts and separate the insulator from the engine mounting member, Fig 130 Raise the transmission slightly if necessary

Installation is the reverse of removal Be sure to protect mounts from oil and grease and tighten all bolts securely

TIMING CASE COVER REMOVAL

Should you notice an oil leak at the front cover, you will have to remove the timing case to replace the gasket After the cover has been removed, the timing chain and sprockets are also exposed for service Allow two to three hours for this job

NOTE Timing case cover removal for Datsun models 610 and 710 require the use of special tools We therefore recommend you have this procedure performed by a qualified mechanic

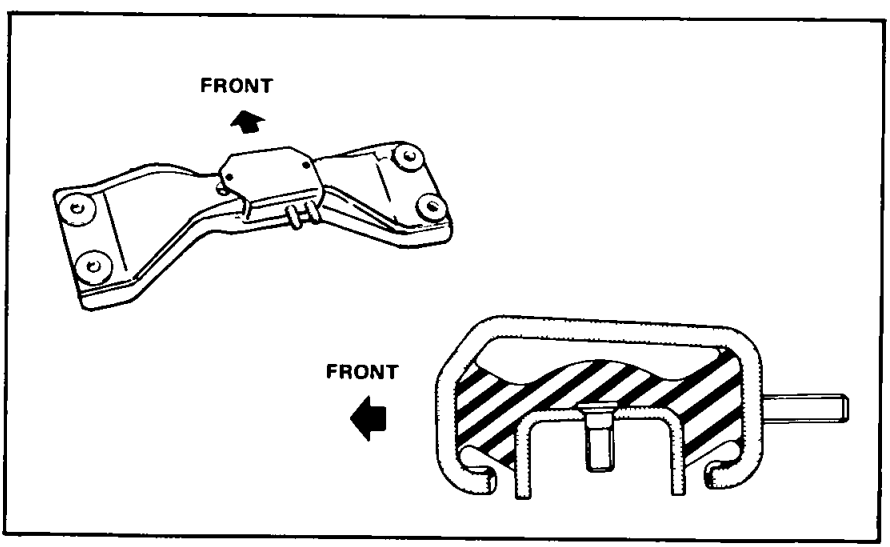


Fig. 130 Typical rear engine mount

Model B210

1 Disconnect the battery ground cable
2 Drain the coolant from the engine
3 Drain the oil from the engine
4 Loosen the drive belt
5 Loosen bolts securing the fan shroud (if equipped) and remove the shroud
6 Loosen the drive belt, then remove the fan blade, fan spacer and pulley from the hub
7 Remove the water pump assembly and gasket from cover, Fig 105
8 Remove the oil pan and oil strainer
9 Remove the bolts that hold the cover in place and remove the cover, Fig 131

Installation is the reverse of removal Be sure to properly clean all gasket surfaces before installing new gaskets Tighten all bolts securely, alternating from bolt to bolt

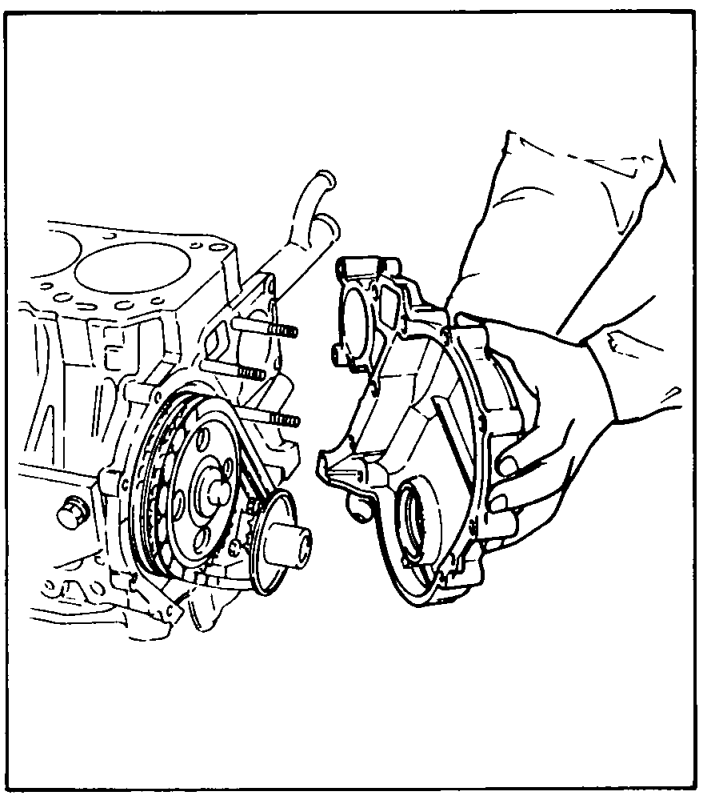


Fig 131 Removing timing chain cover

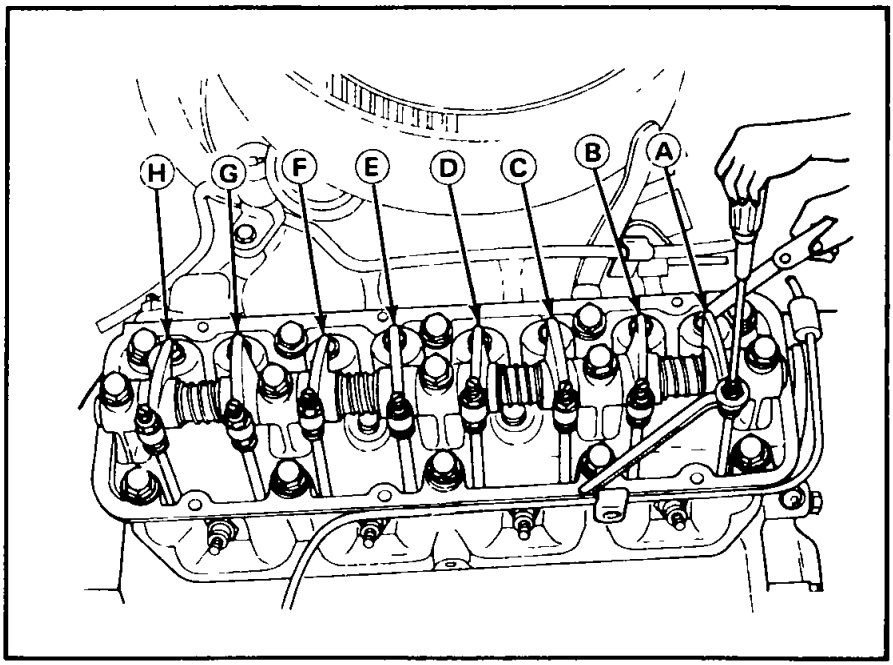


Fig 132 Valve adjustment sequence

ADJUSTING VALVE CLEARANCE

Model B210

1 Start the engine and let it idle until warmed up Stop engine
2 Disconnect the distributor coil wire to prevent the engine from starting and crank the engine by turning the ignition key in short bursts until No 1 cylinder is at top dead center (TDC) according to the timing marks
3 Remove the valve rocker cover Note how the hoses, wires, cables and tubes are removed so you can replace them properly
4 Adjust the valve clearance at the following four points by loosening each locknut and adjusting the adjusting screw with a screwdriver, Fig 132
   - Exhaust valve of No 1 cylinder— "A"
   - Intake valve of No 1 cylinder — "B"
   - Intake valve of No 2 cylinder — "C"
   - Exhaust valve of No 3 cylinder — "E"

   Now tighten locknuts securely
5 Crank the engine again until No 4 cylinder is at TDC This position is indicated when both rocker arms for No 4 cylinder are in a neutral position (both valves closed)

6 Adjust the clearances on these cylinders, Fig 132
- Exhaust valve of No 2 cylinder — "D"
- Intake valve of No 3 cylinder — "F"
- Intake valve of No 4 cylinder — "G"
- Exhaust valve of No 4 cylinder — "H"

Valve Clearance

All valves 0 35 mm (0 014 in)

7 Remove all pieces of the old gasket material and install a new valve cover gasket Install the valve cover, hoses, wires, cables and tubes Connect the distributor coil wire

8 Test drive the car to check performance

Models 610 and 710

1 If the car has been run recently, allow the engine to cool before adjusting valves

2 Remove the valve rocker cover Note how the hoses and tubes were removed so that you may reinstall them properly

3 Disconnect the coil wire from the distributor so the engine won't start

4 Crank the engine by turning the ignition key in short bursts until cam lobe nearest front of engine is straight up

5 Measure the clearance under that valve, first noting whether it is an intake or an exhaust valve, Fig 133 Do the same for any other cam lobe pointing straight up

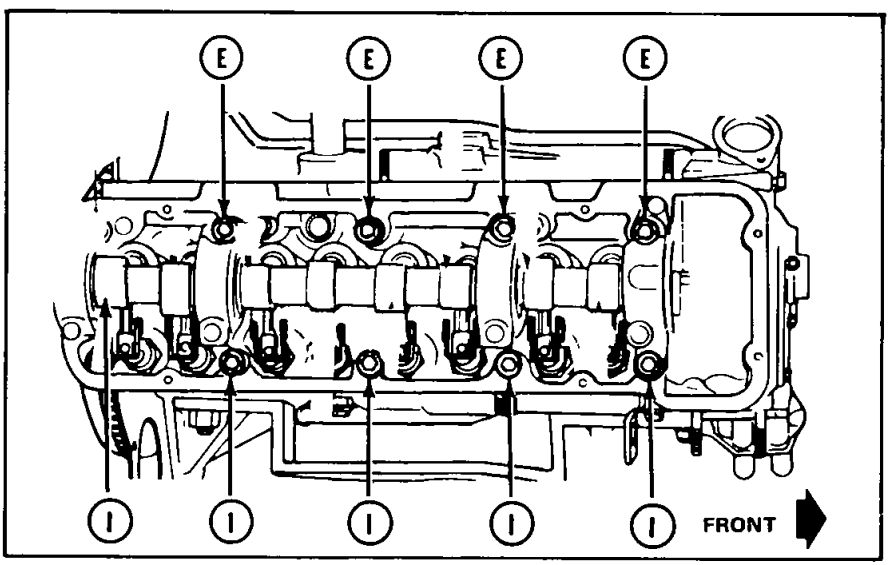


Fig 133 Valve adjustment – Models 610 and 710

6 If the clearance is out of specification, loosen the pivot locknut and turn pivot screw until specified clearance is reached Tighten the locknut securely, Fig 134

7 Crank the engine until the second cam lobe from the front is pointing straight up

8 Repeat steps 3, 4 and 5 until each valve has been checked and/or adjusted

Valve Clearance

Intake Valves – 0 20 mm (0 008 in)
Exhaust Valves – 0 25 mm (0 010 in)

CYLINDER HEAD REMOVAL REPLACEMENT

If after taking a compression test, you have established that a valve grinding job is necessary, or if the overhead cam is damaged or the cylinder head is cracked, warped or otherwise damaged, you can remove the cylinder head yourself — with the help of this book By doing the labor yourself, you'll save enough to go a long way toward the cost of a valve job Shop around when looking for a replacement cylinder head Prices can vary greatly and some places have exchange programs where you simply swap heads — no waiting Taking the cylinder head off and reinstalling it is an all-day job

Model B210

To Remove

1 Drain the coolant from the engine
2 Disconnect the battery ground cable
3 Drain the oil from the engine

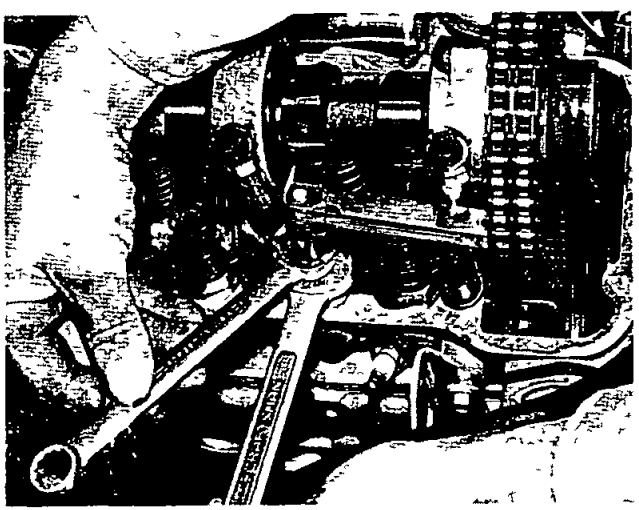


Fig 134 Tightening locknut – Models 610 and 710

4 Disconnect the top radiator hose from the thermostat housing
5 Remove the thermostat housing and thermostat from the cylinder head
6 Disconnect all hoses, wires, tubes and cables on the valve cover
7 Remove the intake manifold with the carburetor in place
8 Remove the valve rocker cover
9 Loosen the valve locknuts and turn the adjusting screws out to disengage the push rods Then evenly loosen the rocker shaft bolts and remove the rocker shaft as an assembly
10 Withdraw the push rods and label them to keep them in order
11 Loosen the cylinder head bolts in sequence shown in Fig 135 Loosen them a little at a time to avoid warping the head
12 Lift the head off the engine If the head sticks, do not pry at gasket area Instead, tap the head firmly with a large soft hammer until seal is broken Remember; tap — do not beat!

To Install

1 Put a new cylinder head gasket in place after removing any residue left from the old one Apply a small amount of suitable gasket sealer to the bottom of the gasket to help locate it on the engine block
2 Position the cylinder head in place and insert cylinder head bolts Be sure to install the smaller diameter head bolt on the right-side center of the head

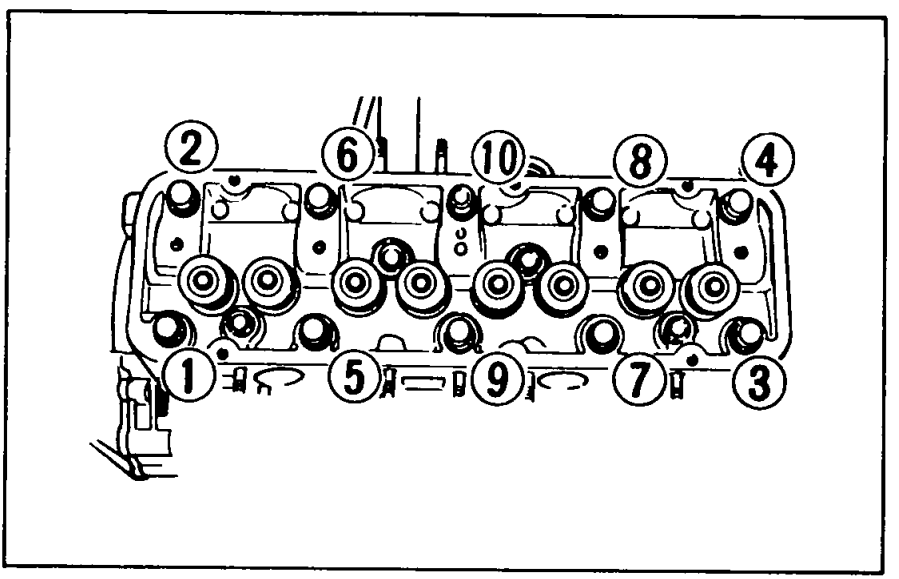


Fig 135 Cylinder head bolt loosening sequence – Model B210

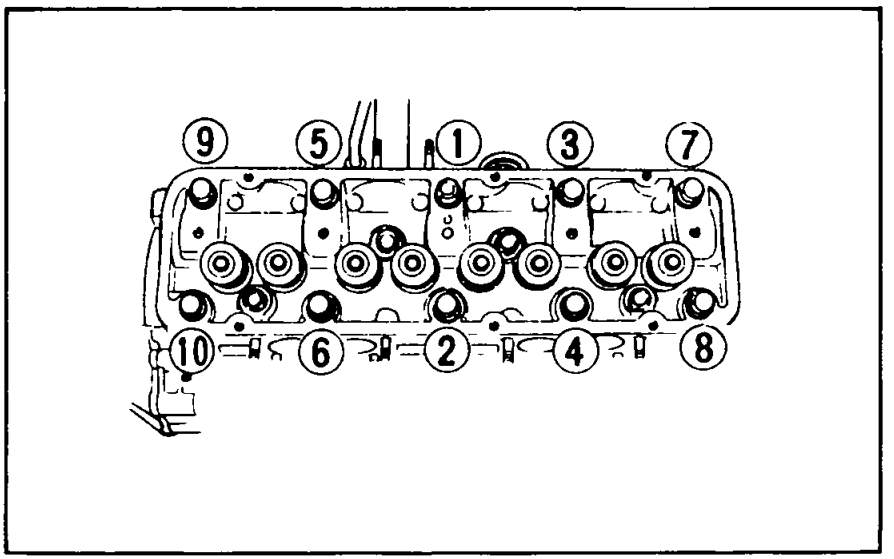


Fig 136 Cylinder head bolt tightening sequence – model B210

3 Tighten the bolts in three steps to a final torque of 70 to 75 N•m (51-54 ft -lbs) in the sequence shown in Fig 136

4 Apply engine oil to ends of push rods and install rods in proper sequence

5 Apply engine oil to valve stem end and rocker arm contact surfaces Position rocker shaft assembly on cylinder head

6 Tighten the rocker shaft bracket in three steps to a final torque of 20 to 25 N•m (14 to 18 ft -lbs) in the sequence shown in Fig 137

7 Adjust valve clearance as described earlier

8 Install the valve cover and gasket

9 Finish installing remaining components (steps 6 through 1)

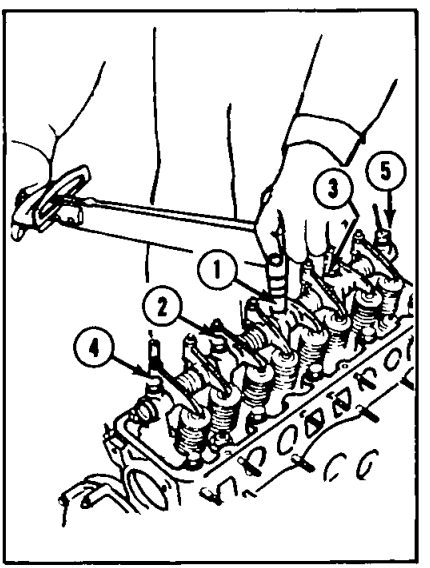


Fig 137 Rocker shaft bolt tightening sequence – Model B210

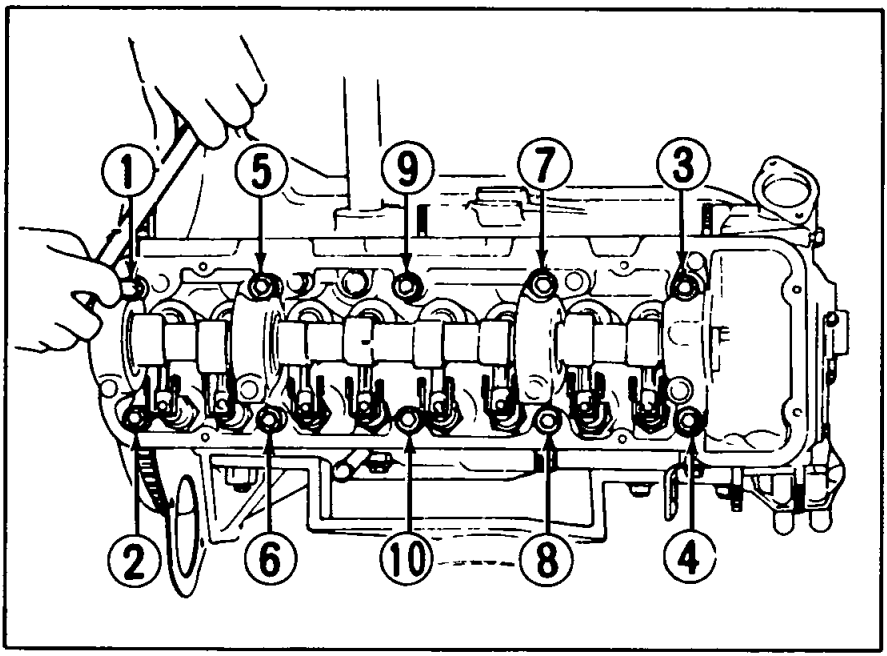


Fig 138 Cylinder head bolt loosening sequence – Models 610 and 710

Models 610 and 710

1 Crank the engine until No 1 cylinder is at TDC as indicated on timing marks

2 Perform steps 1 through 8 as outlined in B210 cylinder head removal procedures

3 Remove the fuel pump

4 To facilitate assembly, paint a mark on the timing chain and camshaft sprocket

5 Loosen the camshaft bolt and remove the fuel pump driving cam

6 Loop a piece of wire around timing chain to prevent it from falling into engine block as you remove the sprocket from the camshaft and the chain from the sprocket

7 Remove the cylinder head bolts loosening in three steps, in sequence shown in Fig 138

8 Lift the head partially up from the engine block and have a helper loop two pieces of wire around the timing chain at base of engine to keep it from falling

Installation is the reverse of removal Use the three step tightening sequence shown in Fig 139 to tighten cylinder head bolts

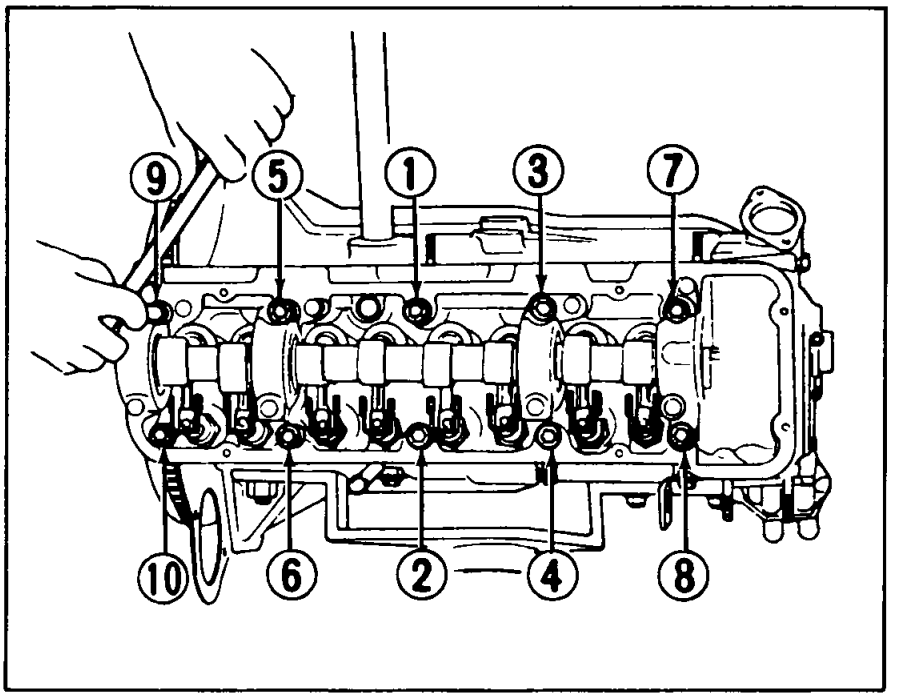


Fig 139 Cylinder head bolt tightening sequence – Models 610 and 710

Clutch, Transmission & Propeller Shaft

This section will provide you with the help you need in making some minor adjustments to the clutch and transmission linkage, as well as more complex procedures such as removing a transmission

Don't be frightened about removing a transmission We'll be helping you and any jacks or supports you might need can usually be rented at local rent-all centers You can save a lot of money by doing the labor yourself Replacement transmissions can be purchased at local salvage yards These units were removed from wrecked cars, but the wreck may have had no effect on the transmission The reduced price you pay at a salvage yard will help you keep your car running and avoid the expense of buying another car When dealing with a salvage yard, be sure that you fully understand any warranty that accompanies the unit you are buying

CLUTCH LINKAGE ADJUSTMENT

If you are having trouble shifting gears, or there is a gear grinding or clashing when shifting, the cause may be a clutch in need of adjustment This 45-minute adjustment is quite simple on Datsun B210 models Model 610 and 710 clutch linkage, however, is complicated, requiring a qualified mechanic and special tools for any repairs or adjustments

1 Loosen the locknut and push nut located at the connection of the operating cylinder and withdrawal lever, Figs 140 and 141 Adjust the length of the push rod by turning the push rod with an open end wrench until the release bearing lightly touches the diaphragm spring

2 Turn the push rod back approximately 1¼ turns so that the withdrawal lever dimension is as indicated in Fig 141

3 Tighten the locknut and push nut, being careful not to disturb the dimension

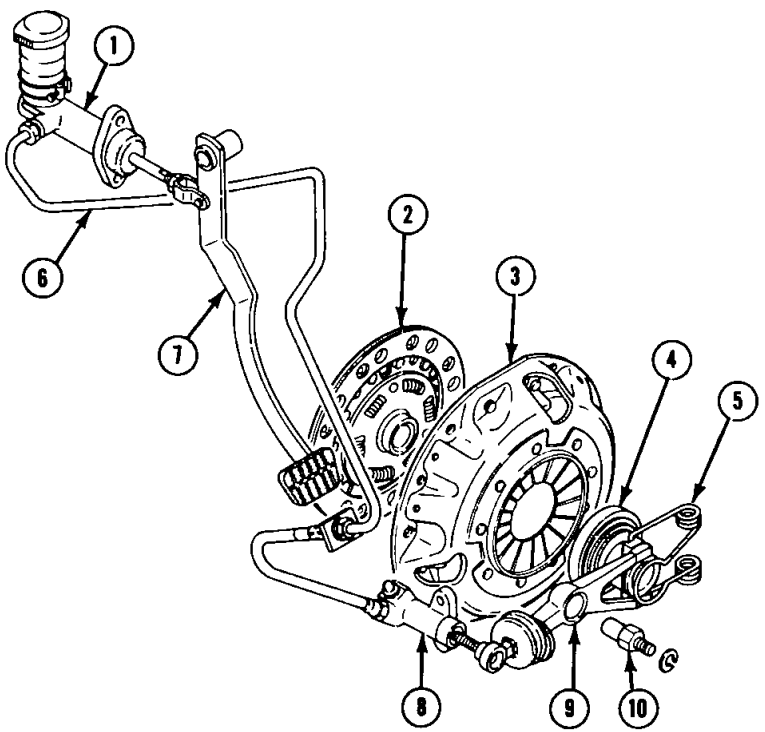
4 Depress and release the clutch pedal several times, then check the pedal travel adjustment

5 Measure the pedal travel at the center of the pedal It should be 16 to 33 mm (0 63 to 1 30 in)

CLUTCH REPLACEMENT

If your car feels like it has no power, don't overlook the possibility that the clutch is worn Remember, the clutch has a facing or lining very similar to that used on brakes, so if you can't keep the clutch adjusted properly, the clutch may need replacing

You can do this job yourself and save the labor charges The parts can be purchased at your local automotive parts supply store Clutch replacement should take most of the day



1 CLUTCH MASTER CYLINDER
2 CLUTCH DISC ASSEMBLY
3 CLUTCH COVER ASSEMBLY
4 RELEASE BEARING AND SLEEVE ASSEMBLY
5 RETURN SPRING
6 CLUTCH LINE
7 CLUTCH PEDAL
8 OPERATING CYLINDER
9 WITHDRAWAL LEVER
10 WITHDRAWAL LEVER BALL PIN

Fig 140 Clutch operating system

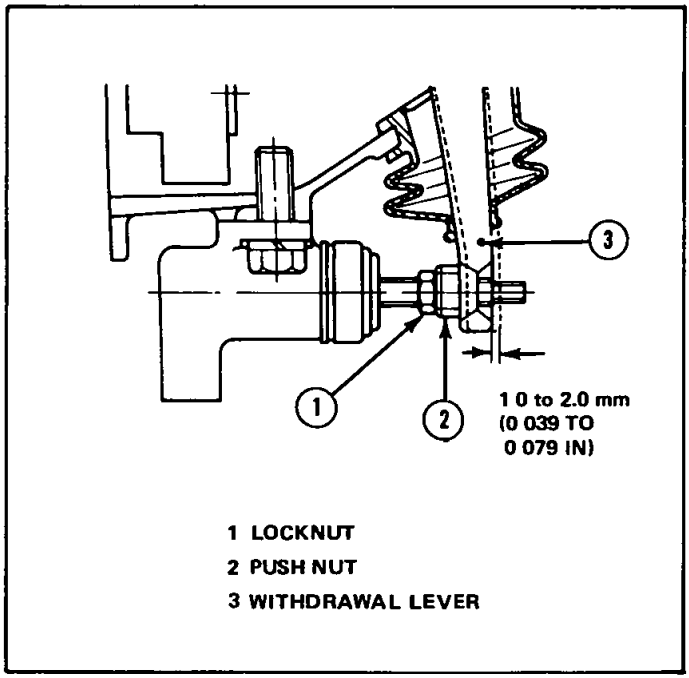


Fig 141 Adjusting clutch pedal travel

1 Remove the transmission, as outlined later in this chapter
2 Insert the clutch aligning bar into the clutch disc hub until it will go no further It is important to support the weight of the clutch disc in the steps that follow, Fig 142
3 Loosen the bolts attaching the clutch cover to the flywheel, one turn each at a time, until the spring pressure is released Be sure to turn them out in a crisscross fashion
4 Remove the clutch assembly and disc cover

Installation is the reverse of removal Tighten all bolts in a crisscross manner one turn at a time to a torque of 16 to 21 N•m (12 to 15 ft-lbs)

MANUAL TRANSMISSION REPLACEMENT

If the transmission is in need of an overhaul, the cost will be rather high If you remove the transmission and replace it with one bought from a salvage yard, your day's work will save you money

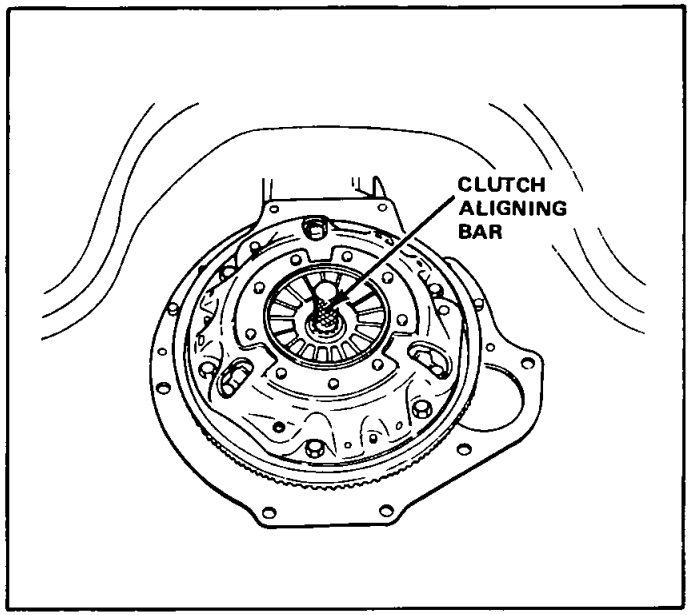


Fig 142 Supporting clutch assembly

Model B210

1 Disconnect the battery ground cable
2 Remove the console box and hole cover mounting screws Remove the hole cover and rubber boot
3 Place the transmission in neutral
4 Remove the control lever by removing C-ring and pin
5 Raise the car and support it with safety stands at all corners
6 Disconnect the front exhaust tube
7 Disconnect wires "A" from the reverse lamp switch, Fig 143
8 Disconnect the wires from the top detecting switch and neutral switch
9 Disconnect speedometer cable "B" Fig 143
10 Remove the propeller shaft as described later in this chapter
NOTE: Plug the opening in the rear extension housing to prevent oil from flowing out
11 Remove the clutch operating cylinder "C" from transmission case, Fig 143
12 Support the engine by placing a jack under the oil pan, with a piece of wood (2x4 is OK) between the oil pan and jack

NOTE: Do not place the jack under the oil pan drain plug

13 Support the transmission with a transmission jack
14 Remove the rear engine securing bolts "D" and crossmember mounting bolts "E" Fig 143

15 Remove the starter motor
16 Remove the bolts securing the transmission to the engine and gusset
17 Support the engine and transmission with jacks and slide transmission rearward and away from engine Remove transmission from car

Installation is the reverse of removal, with the following additional steps

1 Before installing transmission, clean mating surfaces of engine rear plate and transmission case
2 Before installing, apply a light coat of grease to spline parts of clutch disc and main gear drive and moving surfaces of control lever and striking rod
3 Remove the filler plug and fill transmission with recommended gear oil to level of plug hole

Models 610 and 710

1 Disconnect the battery ground cable
2 Remove the shift lever
3 Raise the car and support at all corners with safety stands
4 Disconnect the front exhaust tube
5 Disconnect wires from back-up lamp switch
6 Remove the clutch operating cylinder from the transmission case
7 Disconnect the speedometer cable from the rear housing
8 Disengage the propeller shaft as explained later in this chapter

NOTE: Plug opening in rear extension housing to prevent oil from flowing out

9 Support the engine with a jack and a piece of wood (2x4 is OK) at the oil pan

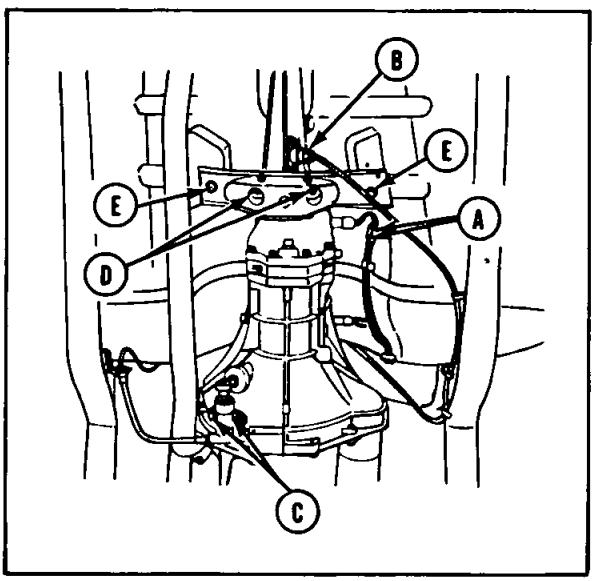


Fig 143 Transmission – Model B210

10 Support the transmission with a jack

11 Remove the two bolts securing the transmission to rear engine mounting insulator and remove two crossmember mounting bolts

12 Lower the jack so that the transmission can be removed from the car easily

13 Remove the starter motor from the transmission case

14 Remove the four bolts securing the engine to gussets

15 Remove the three bolts securing gussets to engine rear plate and transmission case, if so equipped

16 Remove the bolts securing the transmission to the engine and move transmission backward and away from car

Installation is the reverse of removal Remove filler plug at inspection hole and fill transmission case with recommended oil to the level of the plug

AUTOMATIC TRANSMISSION REPLACEMENT

1 Disconnect the battery ground cable

2 Disengage the torsion shaft from the accelerator linkage, if so equipped

3 Raise the car and support all corners with safety stands

4 Remove the propeller shaft as explained later in this chapter

5 Disconnect the front exhaust tube

6 Disconnect the selector range lever from manual shaft

7 Disconnect the wire connections at inhibitor switch

8 Disconnect the vacuum tube from the vacuum diaphragm and wire connections at downshift solenoid

9 Disconnect the speedometer cable from the transmission rear extension

10 Disconnect the oil fill pipe

11 Disconnect the oil cooler inlet and outlet tubes at transmission case

12 Support the engine by placing a jack under the oil pan, with a piece of wood (2x4 is OK) between the pan and jack

13 Support the transmission with a transmission jack

14 Detach the engine rear plate rubber plug Remove the bolts securing the torque converter to the drive plate Measure distance "A" Fig 148 and mark for reference during reassembly

NOTE: Before removing the torque converter, scribe marks on the two parts so that they will be replaced in the original position

15 Remove the rear engine mount securing bolts and crossmember mounting bolts

16 Remove the starter motor

17 Remove the bolts securing transmission to engine After removing these bolts, support the engine and transmission with jack and lower gradually until transmission can be removed

NOTE: Plug up any openings such as oil fill pipe, oil cooler tubes, etc

Installation is the reverse of removal with the following additional steps

1 Install the torque converter with the notch in the torque converter lined up with the one in the oil pump Be extremely careful not to cause undue stress when installing the torque converter

2 When connecting the torque converter to the transmission, be sure distance "A" Fig 144 is the same as measured during disassembly

3 After the converter is installed, rotate the crankshaft several turns and check to be sure the transmission turns freely without binding

4 Fill the transmission with a recommended fluid

5 Connect the selector range lever to the manual shaft with the shift selector in neutral

6 Check the inhibitor switch for operation Starter should be brought into operation only in P and N positions

7 Move the gear selector lever to check operation

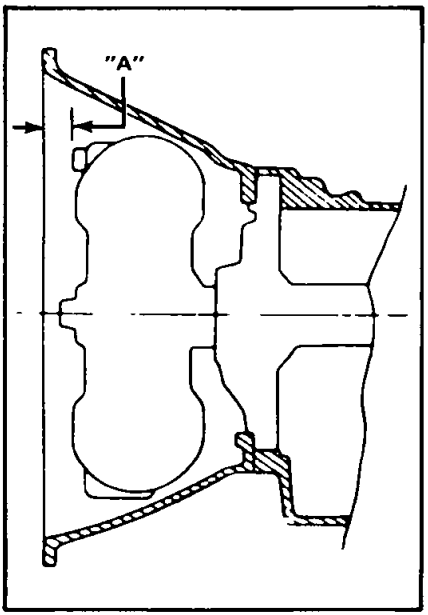


Fig 144 Installing torque converter

AUTOMATIC TRANSMISSION LINKAGE

Model B210

1 Prior to installing control knob, set the dimension "A" to 11 to 12 mm (0 43 to 0 47 in), Fig 145

2 Install the control knob on the lever At the same time check dimension "B" and adjust it to 0 1 to 1 1 mm (0 004 to 0 433 in) by turning pusher, Fig 145

3 Loosen the adjustment nuts Set control lever and selector lever in neutral Set the clearance "C" to 1 mm (0 039 in) by turning adjusting nuts at trunnion which connects selector rod, Fig 145

4 After adjusting, test for free operation and lack of binding Any parts that cannot be brought into adjustment will have to be replaced by a qualified mechanic

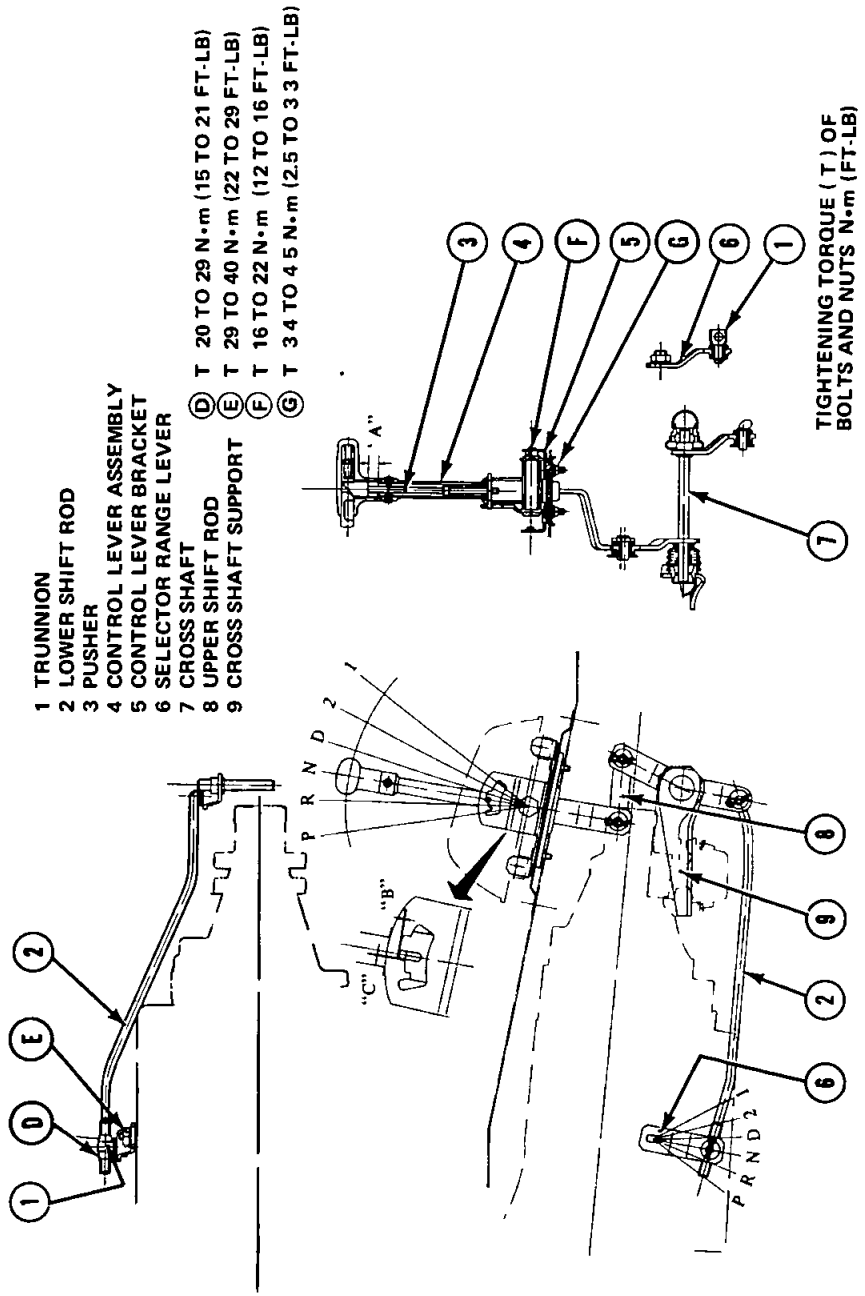

1 TRUNNION
2 LOWER SHIFT ROD
3 PUSHER
4 CONTROL LEVER ASSEMBLY
5 CONTROL LEVER BRACKET
6 SELECTOR RANGE LEVER
7 CROSS SHAFT
8 UPPER SHIFT ROD
9 CROSS SHAFT SUPPORT
Ⓓ T 20 TO 29 N·m (15 TO 21 FT-LB)
Ⓔ T 29 TO 40 N·m (22 TO 29 FT-LB)
Ⓕ T 16 TO 22 N·m (12 TO 16 FT-LB)
Ⓖ T 3.4 TO 4.5 N·m (2.5 TO 3.3 FT-LB)
TIGHTENING TORQUE (T) OF BOLTS AND NUTS N·m (FT-LB)
"A"
"B"
"C"
P R N D 2 1

Fig 145 Control linkage system – Model B210

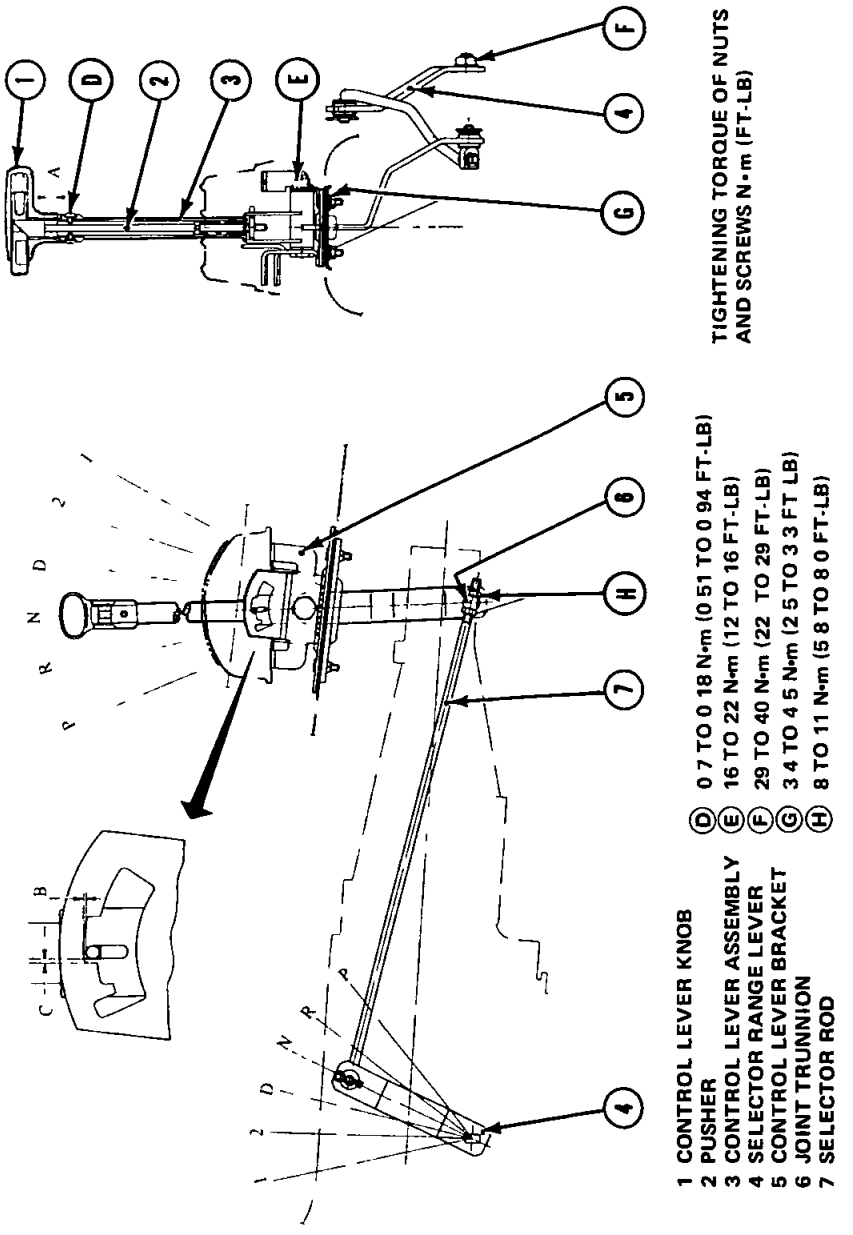

1 CONTROL LEVER KNOB
2 PUSHER
3 CONTROL LEVER ASSEMBLY
4 SELECTOR RANGE LEVER
5 CONTROL LEVER BRACKET
6 JOINT TRUNNION
7 SELECTOR ROD
TIGHTENING TORQUE OF NUTS AND SCREWS N•m (FT-LB)
Ⓓ 0 7 TO 0 18 N•m (0 51 TO 0 94 FT-LB)
ⒺⒻ 16 TO 22 N•m (12 TO 16 FT-LB)
29 TO 40 N•m (22 TO 29 FT-LB)
ⒼⒽ 3 4 TO 4 5 N•m (2 5 TO 3 3 FT LB)
8 TO 11 N•m (5 8 TO 8 0 FT-LB)

Fig 146 Control linkage system – Models 610 & 710

Models 610 and 710

1 Prior to installing the control knob, set the dimension "A" to 11 to 12 mm (0 433 to 0 472 in), Fig 146

2 Install the control knob on lever At the same time, check the dimension "B" and adjust it to 0 1 to 1 1 mm (0 004 to 0 433 in) by turning pusher, Fig 146

3 Loosen the adjustment nuts Set control lever and selector lever in neutral Set the clearance "C" to 1 mm (0 039 in) by turning adjusting nuts at trunnion which connects selector rod, Fig 146

4 After adjustment, check for free operation and lack of binding Any part that can't be brought into adjustment will have to be replaced by a qualified mechanic

PROPELLER SHAFT REMOVAL

Propeller shaft removal is an integral part of clutch and transmission removal Removal is easy and should not add noticeably to clutch or transmission removal time

Models 610 and 710

1 With the car supported on stands as in transmission removal, put marks on the propeller shaft and companion flange so that the shaft can be reinstalled in the original position

2 Remove the bolts connecting the shaft to companion flange Remove the bolts retaining the center bearing support, Fig 147

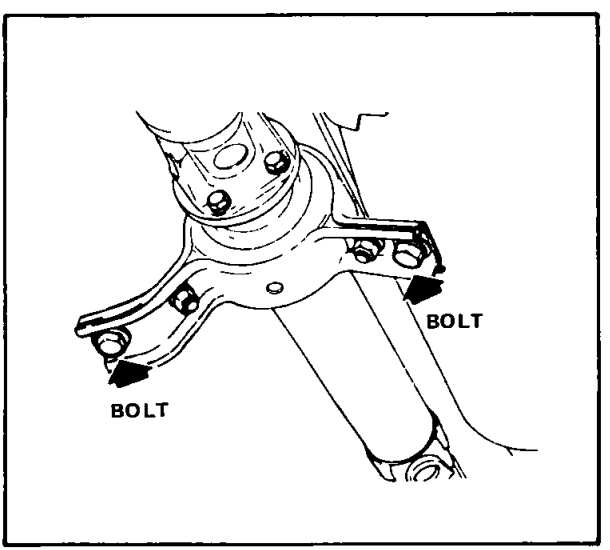


Fig 147 Removing center bearing support

3 Draw out the propeller shaft sleeve yoke from the transmission by moving the shaft rearward, passing it under the rear axle Check for oil leakage from transmission end

NOTE: Remove propeller shaft carefully so as not to damage the spline, sleeve yoke and rear seal

Model B210

1 With the car supported as for transmission or clutch removal, put marks on propeller shaft and companion flange so that they can be installed in their original positions

2 Remove the bolts connecting the propeller shaft to the companion flange, Fig 148

3 Withdraw the propeller shaft sleeve yoke from the transmission by removing propeller shaft rearward, passing it under the rear axle Check for oil leakage at the transmission end

NOTE: When removing the propeller shaft, be careful not to damage the spline, sleeve yoke and rear oil seal

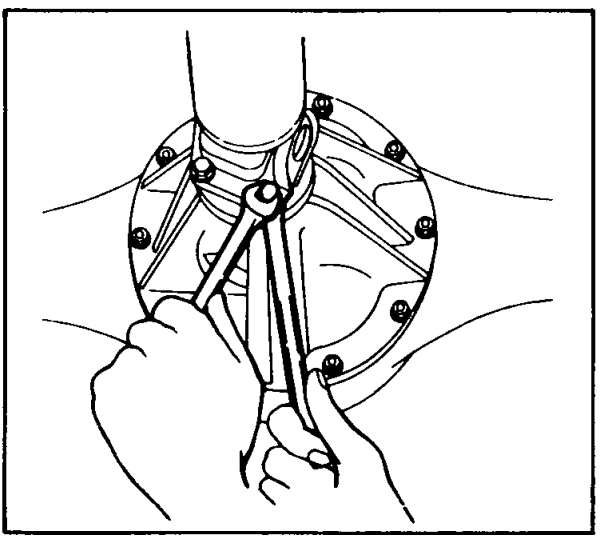


Fig 148 Removing propeller shaft

Maintenance Log

The purpose of this book was to show you that you can do a lot of your own car maintenance and save money while doing it

We have supplied a maintenance log chart, which, when filled in by you will prove that you have saved money This is where you measure your performance and see how well you have done Keep track of your car's maintenance needs It will run better, last longer and not let you down

DATE	MILEAGE	GASOLINE	OIL	REPAIRS	
				YOUR COST	$ SAVED

DATE	MILEAGE	GASOLINE	OIL	REPAIRS YOUR COST	$ SAVED